

FROM FINANCIAL LITERACY TO RETAIL INVESTMENT: A COMPARATIVE PLAYBOOK FOR THE EU SAVINGS AND INVESTMENTS UNION

Empirical evidence from Spain and the Netherlands and a 10-country review of public and private measures

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SUMMARY

People who know more about finance are more likely to invest. This CEPS-ECMI-ECRI In-Depth Analysis report confirms this through household microdata from Spain (ECF 2021) and the Netherlands (DHS 2022), and reviews public and private measures in 10 EU Member States. In Spain, the share of adults holding investment funds or listed shares rises from 8% among those who answer none of three standard financial literacy questions correctly to 36% among those who are able to answer all three. In the Netherlands, it rises from 5% to 35%. This also holds after socio-economic controls in both countries, despite their very different pension systems.

Understanding diversification matters most. Women invest less and some of the gap reflects uncertainty rather than mistaken beliefs: women answer 'do not know' more often, while their actual share of incorrect answers is similar to male respondents. Tested and self-assessed knowledge both matter and are not interchangeable.

The country review shows that delivery matters more than labels: a national strategy or a curriculum requirement does not guarantee that pupils are actually taught what they need to know. Simpler administration and tax incentives are separate decisions. Simplification costs little and should be encouraged on its own merits; incentives should be justified by additional saving or new investors.

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EXECUTIVE SUMMARY

Financial literacy and direct investment go hand in hand. In Spain, the share of adults who hold investment funds or listed shares rises from 8% among those who answer none of three standard questions on financial literacy correctly to 36% among those who answer all three. In the Netherlands, it rises from 5% among adults who consider themselves not knowledgeable about financial matters to 35% among those who consider themselves very knowledgeable. The relationship survives the full set of socio-economic controls in both countries. For Spain, instrumental-variable evidence is consistent with a causal effect, although its direction is better established than its size.

This report combines two sources to establish that relationship and what it means for policy: household microdata from Spain (Survey of Financial Competences, ECF 2021) and the Netherlands (DNB Household Survey, DHS 2022), two surveys in the field at the same time. The report then reviews public and private measures in 10 EU Member States: the Netherlands, Sweden, Denmark, Germany, France, Italy, Spain, Portugal, Romania and Ireland. It closes with a playbook of 10 policy levers that lead from literacy to investment.

Four findings from the household data go beyond the well-established link between literacy and participation.

Knowledge matters, even in very different pension systems. Funds or listed shares are held by 19.8% of adults in Spain and 17.7% in the Netherlands. Dutch households also invest extensively through employment-based pensions, a route that is far less common in Spain. Despite this contrast, the relationship between self-rated financial knowledge and direct investment is of a similar size in both countries once income, education and wealth are taken into account. A large, funded pension system does not remove the relevance of knowledge for the investments people choose themselves.

An understanding of diversification is an influential factor. In Spain, a correct answer to a question about spreading investments across different companies is associated with 8.7 percentage points more fund or share ownership, compared with 2.9 points for compound interest and 2.1 for inflation, after accounting for other personal and financial characteristics. Only 52% answer the diversification question correctly, and fewer than one in five answer all three. General financial literacy is therefore unlikely to be enough when the objective is informed participation. Education aimed at investment decisions should cover diversification, the relationship between risk and return, costs, liquidity and investment horizon, including the difference between short-term volatility and the risk of permanent loss, not solely budgeting.

Women invest less, and some of the difference is confidence rather than knowledge. Women are less likely to hold funds or shares than men, and the gap does not disappear

when knowledge and socio-economic characteristics are taken into account: 3.6 percentage points in Spain and 11.6 in the Netherlands. The Spanish test shows where the knowledge difference comes from. Women answer fewer questions correctly (1.4 out of three, against 1.7 for men). But that is not because they give more wrong answers: the shares of incorrect answers are similar. The difference lies in 'do not know': 35% of women give that answer to at least one question, against 22% of men. Women who are unsure say so; men are more likely to guess. Lower scores among women measure uncertainty as much as mistaken beliefs.

This tendency changes what education should do for this group. Correcting wrong beliefs calls for content; overcoming uncertainty calls for formats that let people ask, practise and check their understanding without pressure. It is also essential to record correct, incorrect and 'do not know' answers separately, so that programmes can be designed for the problem their target group actually has. Still, confidence alone will not close the gap, as each correct answer is associated with less additional participation among women (3.3 points) than among men (6.1). Barriers beyond knowledge, such as income, attitudes to risk or decision-making within the household, need to be identified before support is designed.

Tested knowledge and self-assessed knowledge both matter, and they are not the same thing. In Spain, correct answers to the test and people's own rating of their knowledge are each associated with holding funds or shares when both are included in the same model: for the same test score, people who feel less knowledgeable invest less, and for the same self-rating, people who know more invest more. In the Netherlands, self-rated knowledge keeps its association after numerical ability is included. Self-ratings capture confidence and experience as well as knowledge. Two implications follow. Knowing without feeling knowledgeable holds people back, which is the pattern behind the gender gap above; feeling knowledgeable without knowing exposes people to overconfidence. Programmes should measure both, aim to bring confidence into line with actual knowledge, and avoid selecting participants on self-reported confidence alone.

These findings describe relationships between financial literacy, measured by tested knowledge, self-assessed knowledge and numeracy, and what people hold. They identify learning needs and participation gaps; they are not estimates of what a particular education programme would achieve. Financial literacy is what people know and how confidently they use it. Financial education is the set of activities intended to improve it. The 10-country review adds three lessons on how literacy leads to decisions.

Delivery matters more than labels. A national strategy and compulsory school content are starting points, not results. Italy, Romania and France require financial education in school curricula, yet Italy's own monitoring shows uneven classroom coverage after the

legal mandate. In Spain, curricular content exists, but exposure depends on the subjects pupils take and on regional implementation. Delivery needs trained teachers, teaching time, suitable materials and evidence on what pupils actually learn and retain. Evaluated programmes do improve knowledge and some financial behaviours, but the presence of a strategy or a curriculum requirement, by itself, does not.

Simpler administration and tax incentives are two different decisions. Sweden's Investeringssparkonto (ISK) and Denmark's Aktiesparekonto accounts combine both. They are simple for the saver: one account, a predictable tax, and a provider that calculates and reports the tax (and in Denmark deducts it as well, so the saver files nothing). They also carry a tax advantage, and a different one in each country: Sweden taxes a notional return instead of actual gains, Denmark a flat 17% on the annual return. Both accounts are widely used, with Sweden alone having about 3.8 million ISK holders in 2023. What the evidence cannot show is how much of that use is due to simplicity, how much to the tax advantage, and how much is existing holdings moved into the account rather than new saving or new investors.

A practical conclusion follows from that uncertainty. Simplification costs the public purse little, helps whatever the tax regime and should be done on its own merits. Limited budgetary space is therefore no reason for inaction: simplification alone would make a meaningful difference for retail investors. A tax incentive costs money, so it should be a separate decision, justified by evidence of additionality. What counts is new household saving, or savings and households brought into capital markets for the first time; moving existing holdings into a tax-favoured wrapper does not.

Access and information need to be tested, not assumed. Small regular contributions and low-cost products are practical ways to reach savers. Strong household demand for retail government bonds, Treasury bills and savings certificates shows that households respond to simple, trusted instruments. This demand does not demonstrate a later move into diversified investment. Experiments show that how costs and risks are presented can improve particular choices; making a document available is not enough. Behavioural barriers such as inertia, loss aversion and overconfidence shape decisions alongside knowledge, so defaults and the presentation of information should be designed in the saver's interest and tested.

This report provides a playbook with 10 policy levers along a pathway from literacy to investment. The playbook organises its 10 recommendations as four linked stages, each of which conditions the next (Table 10).

- The first builds financial literacy where the gaps are: make school provision deliverable (7.1), put practical education at the point of decision (7.2) and identify participation barriers before designing support (7.3).
- The second brings people into the market by removing frictions and rewarding new participation: simplify account administration and tax procedures (7.4), target incentives at additional saving and new investors (7.5), make low-cost, diversified options accessible (7.6) and connect the savings channels people already use (7.7).
- The third makes the decision informed and protected: keep education separate from promotion (7.8) and make investor information understandable, comparable and testable (7.9).
- The fourth closes the loop: fund evaluation, assign accountability and expand only on evidence (7.10).

The pathway is a loop rather than a one-way sequence, because participation itself builds literacy. This is a further reason to direct incentives at households entering the market for the first time, instead of holdings moved between accounts.

The order of implementation follows these dependencies. Simplification, scrutiny of costs, a boundary between education and sales, the diagnosis of barriers and the evaluation framework are needed everywhere and can start now at low fiscal cost. The school and point-of-decision programmes have the strongest evaluation evidence but the longest lead times, so preparation should start at once. Incentives should be offered with simplification already in place and with their evaluation designed from the start, and expand only on evidence of additionality. The information audit and disclosure experiment need partners and legal review, and will deliver results later.

Success should mean better decisions, not more accounts at any cost. Retaining liquid savings, repaying expensive debt or declining an unsuitable investment can be successful outcomes. Each policy lever therefore comes with named responsibilities, safeguards and the indicators needed to judge it: objective knowledge, unique funded participation, net new saving, all-in costs, persistence and consumer harm, not account openings alone. The playbook is designed to be adapted to each country’s starting point, rather than applied as a single template.

1. INTRODUCTION: WHAT THIS REPORT ADDS

People with greater financial knowledge are more likely to invest in financial markets. This positive relationship is well established in academic research. Our report confirms it in Spain and the Netherlands, examines which knowledge is most closely related to investment and identifies differences between women and men. It then uses a review of 10 countries to develop practical recommendations.

What previous research establishes. Financial knowledge is a resource that people acquire and use when making decisions on saving, investing and borrowing. The reviews by Lusardi and Mitchell (2014, 2023) explain this approach and bring together evidence that financial literacy matters beyond income and formal schooling. The implication is not that everyone should invest more, but that understanding financial choices is relevant to how people manage their resources.

Country studies make the link to investment more concrete. Van Rooij, Lusardi and Alessie (2011) find that Dutch adults with limited financial knowledge are much less likely to own shares. Their study distinguishes basic concepts, such as inflation and compounding, from knowledge of shares, bonds and diversification. Ispierto, Martínez-García and Ruiz Suárez (2021) document the relationship between financial knowledge and saving and investment choices using an earlier Spanish household survey. Related German evidence concerns retirement planning, another long-term financial decision (Bucher-Koenen and Lusardi 2011).

Research also shows why the way knowledge is measured matters. Bucher-Koenen et al. (2017) document lower knowledge scores among women, more frequent ‘do not know’ responses and lower self-ratings. A wrong answer, uncertainty about an answer and a person’s assessment of their own knowledge convey different information. This distinction is relevant when deciding what educational support to offer.

A separate strand of literature evaluates financial education programmes, rather than comparing people who already have different knowledge levels. Kaiser et al. (2022) combine 76 randomised trials and find positive average effects on knowledge and financial behaviour. Bover, Hospido and Villanueva (2018) find that a Spanish school programme improves knowledge and affects financial choices. These results support well-designed education, but do not mean that every programme increases adult investment. Financial literacy describes what people know; financial education describes activities intended to improve that knowledge.

What this report adds. Part I analyses Spain’s Survey of Financial Competences (ECF 2021) in Section 2 and the Netherlands’ DNB Household Survey (DHS 2022) in Section 3. Both cover adults aged 18 to 79, and their fieldwork periods overlap. We use the same

definition of direct participation: ownership of investment funds or listed shares, alone or jointly. These are the 'investment assets' in the main analysis, whose owners bear the possibility of gains or losses. Broader measures also include bonds and pension-related products; they are not fully comparable across the two pension systems.

The Spanish survey uses the Big Three, a test developed by Annamaria Lusardi and Olivia S. Mitchell on inflation, compound interest and diversification. The Dutch survey instead combines self-rated financial knowledge with four probability questions. Those numerical questions test reasoning with numbers and uncertainty, not knowledge of investment products. Both countries collect self-ratings, allowing us to compare the relationship with investment after adjusting for their different response scales.

Throughout the report, 'financial literacy' is used in the broad sense of the OECD/INFE (International Network on Financial Literacy) framework, on which the ECF is based (OECD 2023). Part I measures it with the instruments each survey provides, tested knowledge, self-assessed knowledge and numeracy, and reads 'do not know' answers as information about confidence. Financial behaviour is kept outside the measure because holding funds or shares is the outcome the report seeks to explain. The analysis confirms the earlier literature and adds four findings relevant to this report's policy question.

First, the relationship is similar in two very different pension systems. Dutch households invest much more through employment-based pensions, yet the link between self-rated knowledge and the investments people hold themselves is similar in size to Spain's. It remains visible after differences in income, education and housing wealth are taken into account.

Second, the content of knowledge matters. In Spain, understanding diversification has the largest association with fund or share ownership among the three topics tested. This points to a specific learning need: explaining why spreading investments reduces dependence on a single company, alongside inflation and compound interest.

Third, knowledge differences do not fully account for the gender gap. Women invest less in both countries even when we compare people with similar knowledge and socio-economic characteristics. The Spanish results also distinguish more frequent 'do not know' responses from incorrect answers, helping to identify different learning needs.

Fourth, tested and self-rated knowledge are not interchangeable. In Spain, each remains related to investment when both are included. Dutch self-ratings remain informative after numerical ability is included, although the additional numerical relationship is concentrated among the highest scorers in 2022. Self-ratings may reflect experience and confidence as well as knowledge.

We first describe these patterns, then use regressions to compare people with similar characteristics. Investing may itself build knowledge, so we also examine this reverse direction. The Spanish instrumental-variable analysis provides additional evidence under stated assumptions; the Dutch data do not support a reliable causal estimate. Further Dutch checks use the 2024 survey and a smaller 2018 questionnaire containing the Big Three.

From findings to recommendations. In Part II, Sections 4, 5 and 6 review the EU framework and then the public and private measures in the Netherlands, Sweden, Denmark, Germany, France, Italy, Spain, Portugal, Romania and Ireland. The report examines how education is coordinated and delivered, how taxes and paperwork are organised, how people access investments, and what information and protection they receive. National examples are assessed alongside available programme evaluations.

Each of the 10 recommendations is linked explicitly to our econometric findings, the 10-country review, or both. The household analysis identifies learning needs and participation gaps. The country review identifies practical responses and weaknesses in delivery or evaluation. Published intervention studies provide additional support where available. Section 7 presents the 10 recommendations as four linked stages on the pathway from literacy to investment, with the order in which they should be taken up (Table 10). Overall findings are set out in Section 8. The technical estimates follow in Annexes A and B, and the country dossiers in Annex C.

2. PART I. EMPIRICAL EVIDENCE: FINANCIAL LITERACY AND RETAIL PARTICIPATION IN SPAIN AND THE NETHERLANDS

2.1. SPAIN: EMPIRICAL EVIDENCE FROM THE SURVEY OF FINANCIAL COMPETENCES

2.1.1. Data

The empirical analysis draws on the Survey of Financial Competences (*Encuesta de Competencias Financieras*, ECF) 2021, conducted by the Banco de España. The ECF is the Spanish adaptation of the questionnaire developed by the OECD International Network on Financial Education (INFE). It is included in the Spanish National Statistical Plan and serves as a key input for the Financial Education Plan. The 2021 wave is the second edition, following an initial round in 2016 carried out jointly with the National Securities Market Commission (CNMV).

The reference population comprises residents in Spain aged 18 to 79. Fieldwork took place between November 2021 and July 2022. The final sample contains 7 764 individuals, selected through stratified random sampling in collaboration with the National Statistics Institute (INE). Sampling weights are provided to ensure population representativeness. For inference, the Banco de España releases 1 000 bootstrap replicate weights. Continuous monetary variables, namely household income, mortgage payments, rent and selected expenditure items, are multiply imputed with five completions.

The ECF collects information on three aspects: knowledge of financial concepts; holdings, acquisition and use of financial products; and financial behaviour and attitudes. The instrument is harmonised with the OECD/INFE methodology, allowing cross-country comparison with the roughly 30 economies that participate in the network.

2.1.2. Descriptive analysis

The sample is broadly representative of the Spanish adult population (Table 1). It is gender-balanced and centred on working ages. Educational attainment is polarised: around two in five adults have completed only primary education or less, while a third hold a university degree. Home ownership is widespread, in line with the structural pattern of Spanish household wealth. Household income is collected in brackets; the modal bands lie between EUR 15 000 and EUR 47 000 of gross annual income.

Table 1. Sample characteristics, Spain (weighted)

Variable	Value	Variable	Value
Demographics		**Labour status**	
Observations	7 764	Self-employed	10.2%
Mean age (years)	46.8	Employee	46.9%
Female	50.7%	Unemployed	11.1%
Educational attainment		Retired	15.5%
Primary or below	42.0%	Other inactive	16.4%
Secondary	23.6%	**Housing**	
Tertiary	34.4%	Owns main residence	74.7%
		Owns additional property	39.8%
Household gross annual income			
Below €9 500	9.1%	€27 001–47 000	27.0%
€9 501–15 000	17.9%	€47 001–71 000	11.6%
€15 001–27 000	28.2%	Above €71 000	6.2%

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own calculations using population sampling weights.

The Big Three is a short test developed by Annamaria Lusardi and Olivia S. Mitchell to measure basic financial knowledge. It asks about inflation, compound interest and risk diversification. Each correct answer adds one point, giving a score from zero to three (Lusardi and Mitchell 2014). In the ECF, 65.2% answer the inflation question correctly, 41.3% the compound-interest question and 52.0% the diversification question. Only 18.9% answer all three correctly, while 13.3% answer none correctly (Table 2). The survey also asks people to rate their financial knowledge on a five-point scale; about 8% choose ‘high’ or ‘very high’.

Table 2. Financial literacy, Spain (weighted)

Indicator	Value	Indicator	Value	Indicator	Value
Big Three (% correct)		**Literacy score**		**Self-assessed knowledge**	
Inflation	65.2%	0 correct	13.3%	Very low	17.2%
Compound interest	41.3%	1 correct	33.8%	Low	30.0%
Risk diversification	52.0%	2 correct	34.0%	Medium	44.5%
		3 correct (all)	18.9%	High	7.2%
				Very high	1.1%

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own calculations using population sampling weights.

Table 3 shows what Spanish adults hold. Funds or listed shares are owned by 19.8%: 11.6% hold funds and 13.5% shares, with some people holding both, so the two figures overlap. Private pension plans reach 20.7%, fixed-income securities 1.0% and cryptocurrencies 4.8%. Adding fixed-income securities and private pensions to funds and shares raises the broader participation measure to 31.5%. These are ownership rates, not the amounts invested.

Table 3. Holdings of financial products, Spain (weighted, % of adult population)

Product	Holdings
Investment funds	11.6%
Listed shares	13.5%
Fixed-income assets	1.0%
Private pension plans	20.7%
Cryptocurrencies	4.8%
Investment assets (funds or shares)	**19.8%**
Any investment product	**31.5%**

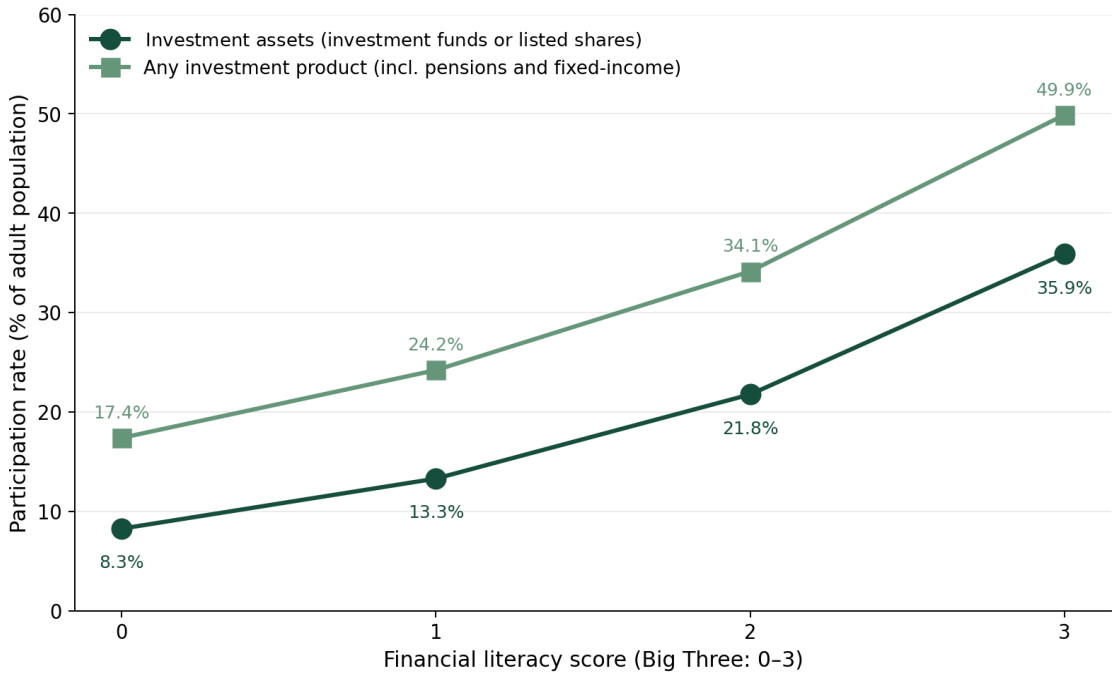
Source: Survey of Financial Competences (ECF) 2021, Banco de España; own calculations using population sampling weights.

2.1.3. Financial literacy and market participation: descriptive evidence

Figure 1 compares investment participation across the Big Three scores. It shows both fund or share ownership and the broader measure that includes bonds and private pensions.

Adults with higher knowledge scores are more likely to invest. Fund or share ownership rises from about 8% among those who answer none of the three questions correctly to 36% among those who answer all three. The broader measure rises from 17% to 50%. The pattern also appears in self-ratings: fund or share ownership rises from 9% among adults who rate their knowledge as 'very low' to around 40% among those who rate it 'high' or above.

Figure 1. Financial market participation by financial literacy score, Spain



Source: Survey of Financial Competences (ECF) 2021, Banco de España; own calculations using population sampling weights.

Note: N = 7 764.

The chart shows a relationship, but does not explain why it exists. People with higher knowledge scores may also have higher incomes, more education or more wealth. Those differences could explain some of the higher investment rate, so we need to examine whether the relationship with knowledge remains when they are taken into account.

2.1.4. Gender differences in financial knowledge and participation

Women are less likely than men to hold investment funds or listed shares: 17.0% do so, compared with 22.6% of men. They also answer fewer Big Three questions correctly, averaging 1.4 out of three, compared with 1.7 for men.

The answers reveal an important distinction. Women are more likely to say 'do not know': 35% give this response to at least one question, compared with 22% of men. The shares of incorrect answers are similar. Lower scores therefore do not simply mean that women hold more mistaken beliefs; uncertainty is also part of the pattern (Bucher-Koenen et al. 2017). Women who are unsure say so; men are more likely to guess. Lower scores among women therefore measure uncertainty as much as mistaken beliefs.

These figures describe the survey respondents without adjusting for other differences between them. The next section asks whether women still participate less when knowledge, income, education and other characteristics are taken into account.

2.1.5. Regression evidence: OLS and instrumental variables

First, we compare people with similar circumstances. The rising investment rates in Figure 1 establish an association, not a causal effect. To see whether knowledge is related to investment beyond differences in income, education or wealth, we estimate a linear probability model using ordinary least squares (OLS), with the survey weights. The model includes age, gender, education, employment status, household income and housing wealth. Its coefficients describe differences in the probability of investing, which we express in percentage points.

The relationship becomes weaker but remains clear. Without these controls, each additional correct Big Three answer is associated with 9.4 percentage points more fund or share ownership. With the controls, the figure is 4.7 points. Thus, differences in the recorded characteristics explain some of the original association, but not all of it. The corresponding adjusted figure for the broader measure, including bonds and private pensions, is 4.5 points. In a separate specification, answering all three questions correctly is associated with about 10 points more fund or share ownership than in the rest of the sample (Table A1 and Table A2).

Diversification has the largest association among the three topics. A correct answer to that question is associated with 8.7 percentage points more fund or share ownership, compared with 2.9 for compound interest and 2.1 for inflation, with the socio-economic controls included. All three associations are positive and statistically significant. Diversification also has the largest estimate for the broader outcome (Table A3).

The gender gap narrows, but does not disappear. With socio-economic controls alone, women's estimated participation is 5.0 percentage points lower than men's. Adding the Big Three score reduces the gap to 3.6 points. Adding self-rated knowledge as well reduces it to 3.0 points. Tested and self-rated knowledge each keep their own association with investment when both are included (Table A6): for the same test score, people who feel less knowledgeable invest less, and for the same self-rating, people who know more invest more. Even women and men with similar recorded knowledge and circumstances therefore participate at different rates. The models do not identify the reasons for the remaining difference; the 'do not know' pattern in Section 2.4 points to uncertainty as one candidate, but does not establish that confidence-building alone would close the gap.

The relationship with knowledge also differs by gender. Each correct answer is associated with 3.3 percentage points more participation among women and 6.1 among men. The reported difference is statistically significant for fund or share ownership, but not for the broader outcome. Formal education is relevant too: university graduates are around 17 points more likely to hold funds or shares than adults with primary education, after the other characteristics are taken into account.

Second, we examine the direction of the relationship. OLS takes the recorded differences between people into account, but investing may itself teach them about fees, returns and risk. This is reverse causality: knowledge can precede investment, but can also result from it. It is one source of endogeneity that prevents us from interpreting the OLS association as the effect of knowledge alone. Unrecorded influences, such as family habits or attitudes to risk, as well as imperfect measurement of knowledge, create further difficulties.

We use an instrumental variable to help address this problem. The instrument is the number of books in the respondent's home at age 10. It describes an early learning environment and is related to adult financial knowledge in the ECF. Adult investment cannot change the books that were present during childhood. The method first uses this childhood information, together with the other controls, to predict financial knowledge. It then examines how that predicted knowledge relates to investment, rather than relying on all the differences in knowledge observed between adults.

This approach requires an important assumption: after accounting for the other characteristics, childhood books must affect adult investment only through financial knowledge. That is not guaranteed. A home with more books may also indicate parental wealth, future inheritances or a family habit of investing. These other routes could make the estimated effect of knowledge too large.

The instrument is clearly related to financial knowledge: the first-stage F-statistic is 38.4. This measures the strength of that relationship, not whether the assumption about family background is valid. Table 4 compares OLS and two-stage least squares (2SLS) on the same 7 701 respondents, out of the 7 764 in the sample, who have the required information. The OLS estimates are 0.047 for funds or shares and 0.044 for the broader outcome. The 2SLS estimates are positive and statistically significant, but much larger: 0.319 and 0.230. Using the same sample ensures that this comparison does not merely reflect a change in respondents.

Table 4. Financial literacy and participation: OLS and 2SLS estimates

	Investment assets		Any investment product	
	OLS	2SLS	OLS	2SLS
Financial literacy score (0–3)	0.047***	0.319***	0.044***	0.230***
	(0.005)	*(0.082)*	*(0.006)*	*(0.083)*
Demographics, labour, income, housing	Yes	Yes	Yes	Yes
Observations	7 701	7 701	7 701	7 701
First-stage F-statistic		38.4		38.4
Wu-Hausman test (p-value)		0.0002		0.030

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own estimation using population sampling weights.

Note: heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. 2SLS estimates instrument financial literacy with the number of books in the home at age 10 (1–5 scale).

These larger estimates need caution. A coefficient of 0.319 corresponds to 31.9 percentage points per point of the knowledge score in this model; it is not a forecast that teaching one additional answer would raise everyone's participation by that amount and thus should not be interpreted as the magnitude of a general causal effect. The method uses the relationship associated with childhood circumstances. Measurement error, differences between the relationships captured by the two methods and remaining family-background influences can all contribute to the gap between the estimates.

We therefore test how sensitive the findings are. Adding parents' occupations, changing how the books variable is grouped and using parental explanations of finance as an

alternative instrument all leave the fund-and-share estimate positive. We also allow books to have a limited direct relationship with investment, rather than assume none at all. Under the examined allowance, the fund-and-share result remains positive, while the broader result is less conclusive.

The Spanish evidence is therefore consistent with financial knowledge helping to increase investment, but the exact size of the effect is less secure than the positive direction across the reported checks. That conclusion remains conditional on the assumptions described above. Detailed estimates and sensitivity tests are reported in Annex A.

2.2. THE NETHERLANDS: EMPIRICAL EVIDENCE FROM THE DNB HOUSEHOLD SURVEY

2.2.1. Data

We use the 2022 DNB Household Survey (DHS), collected by Centerdata through the Dutch CentERpanel (Teppa and Vis (2012) describe the panel and the survey). The analysis includes 2 381 adults aged 18 to 79 who completed the assets and liabilities questionnaire. Fieldwork ran from March to September 2022; holdings refer to 31 December 2021. The fieldwork overlaps with the Spanish survey, although the two surveys do not measure holdings on exactly the same date.

The survey records people's investments, income, housing and financial knowledge. We combine its modules using Centerdata's household weights. Knowledge information is available for 2 287 respondents, and the full regressions use 1 718 with the required information. Annex B gives the data construction and checks that missing information does not drive the findings.

The 2022 survey does not contain the Big Three. It instead provides two measures. Self-assessed financial knowledge asks people to place themselves in one of four categories, from 'not knowledgeable' to 'very knowledgeable'. Numeracy counts correct answers to four questions about probabilities, such as the likelihood of drawing a particular ball from a bowl. It tests reasoning with numbers and uncertainty, not familiarity with financial products. We use self-assessed knowledge as the main measure and numeracy as a separate, objective check. Further checks use the 2024 survey and a smaller 2018 questionnaire containing the Big Three.

2.2.2. Descriptive analysis

The weighted sample is roughly balanced between women and men, with a mean age of 52. About 44% have a tertiary qualification and 62% own their home. Educational qualifications are grouped using the international ISCED classification. Household income is available for 1 917 respondents, which limits the sample used in the full regressions (Table 5).

Table 5. Sample characteristics, the Netherlands (weighted)

Variable	Value	Variable	Value
Demographics		**Labour status**	
Observations	2 381	Self-employed	6.7%
Mean age (years)	52.1	Employee	54.2%
Female	50.9%	Unemployed	1.8%
Educational attainment		Retired	20.6%
Lower secondary or below	22.4%	Other inactive	16.7%
Upper secondary	33.5%	**Housing**	
Tertiary	44.1%	Owns main residence	62.3%
Household gross annual income		Owns additional property	4.9%
Median	€44 000		
Mean	€51 425		

Source: DNB Household Survey (DHS) 2022, Centerdata; own calculations using Centerdata household weights.

Notes: educational categories follow the ISCED-based mapping described in the text; the lower category includes the pre-vocational secondary track (VMBO). Housing tenure is the type of accommodation recorded in the general household file for all respondents; household income is observed for 1 917 respondents.

About 39% of adults describe themselves as knowledgeable or very knowledgeable about finance. On the numerical test, 28.2% answer all four questions correctly and 5.6% answer none. The hardest question concerns the probability of two independent events both occurring; 35.2% answer it correctly (Table 6). The self-rating scale has four categories, rather than Spain's five, so the shares choosing the top categories should not be compared directly.

Table 6. Financial knowledge and numeracy, the Netherlands (weighted)

Self-assessed knowledge		Numeracy			
Not knowledgeable	12.1%	Items (% correct)		Score	
More or less knowledgeable	48.9%	Certain event (bowl of balls)	85.8%	0 correct	5.6%
Knowledgeable	32.7%	Simple probability	66.9%	1 correct	10.0%
Very knowledgeable	6.4%	Complementary probability	83.2%	2 correct	20.3%
		Independent events	35.2%	3 correct	35.9%
				4 correct	28.2%

Source: DNB Household Survey (DHS) 2022, Centerdata; own calculations using Centerdata household weights.

Notes: self-assessed knowledge based on 'How knowledgeable do you consider yourself with respect to financial matters?', four-point scale. Numeracy based on four items on elementary probability; the score counts correct answers (0-4). N = 2 287 respondents with non-missing literacy information.

Funds or listed shares are held by 17.7% of Dutch adults: 13.3% hold funds and 9.7% shares, with some owning both, so the two figures overlap. Bonds are held by 1.4% and cryptocurrencies by 5.1% (Table 7). The fund-and-share participation rate is close to Spain's 19.8%. The estimated difference is not statistically significant at the 5% level ($p = 0.07$; 95% confidence interval for the Spanish-minus-Dutch difference: −0.1 to +4.2 percentage points). The composition differs: funds are more common in the Netherlands, shares in Spain.

Employment-based pensions are a separate route into investment. Membership is reported by 95.3% of employed Dutch respondents and usually follows employment arrangements rather than an active decision to open an investment account. We therefore exclude it from the participation measures. The broader Dutch outcome adds bonds and voluntarily held pension-related products, including single-premium annuities and savings or endowment policies, and reaches 26.8%. It is not fully comparable with Spain's 31.5% broad measure, which includes both occupational and individual private pensions.

Table 7. Holdings of financial products, the Netherlands (weighted, % of adult population)

Product	Holdings
Mutual funds and fund accounts	13.3%
Listed stocks and shares	9.7%
Bonds and mortgage bonds	1.4%
Cryptocurrencies	5.1%
Single-premium annuity policies (third pillar)	11.0%
Savings or endowment insurance policies	3.7%
Investment assets (funds or shares)	**17.7%**
Any of funds, shares or bonds	**18.0%**
Broad measure incl. voluntary pension products	**26.8%**

Source: DNB Household Survey (DHS) 2022, Centerdata; own calculations using Centerdata household weights.

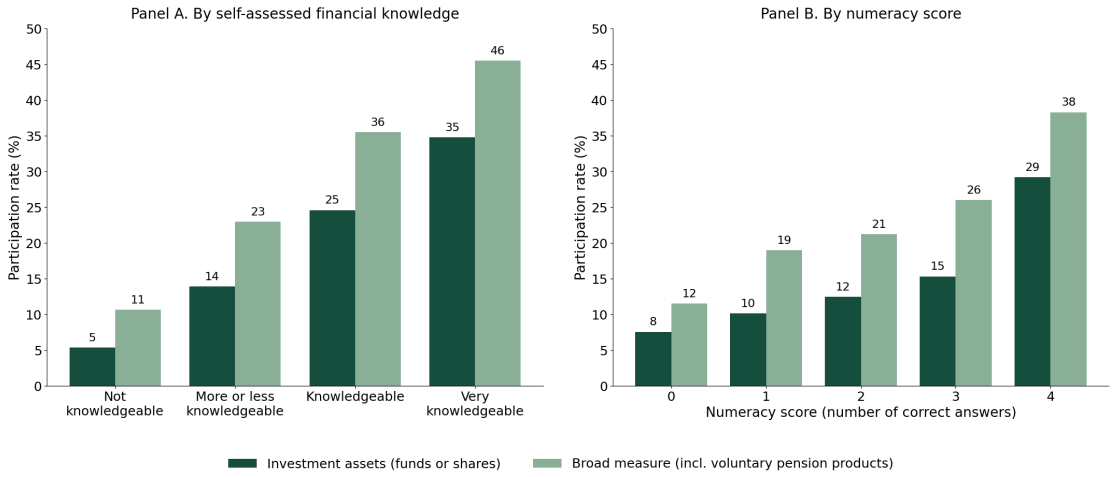
Notes: occupational (second-pillar) pension membership, reported by 95.3% of employed respondents, is excluded from all participation measures because enrolment is quasi-mandatory in the Netherlands and does not reflect a household investment decision.

This distinction changes the interpretation of the country comparison. Dutch pension funds held around EUR 1.7 trillion in 2024, roughly one and a half times GDP, compared with EUR 132 billion, about 8% of GDP, in Spanish pension funds (De Nederlandsche Bank 2024; Inverco 2025; INE 2025). Similar personal holdings of funds and shares therefore coexist with very different amounts invested through pensions. The analysis that follows concerns the investments people hold themselves.

2.2.3. Financial literacy and market participation: descriptive evidence

Figure 2 shows higher participation among adults reporting more knowledge and among those with higher numerical scores. Fund or share ownership rises from about 5% among those who feel 'not knowledgeable' to 35% among those who feel 'very knowledgeable'. The broader outcome rises from 11% to 46%. For numeracy, fund or share ownership rises from about 8% among those answering none of the four questions correctly to 29% among those answering all four. These figures compare the groups before differences in income, education and other characteristics are taken into account.

Figure 2. Financial market participation by financial knowledge and numeracy, the Netherlands



Source: DNB Household Survey (DHS) 2022, Centerdata; own calculations using Centerdata household weights.

Note: N = 2 287.

These patterns do not show whether knowledge itself explains the higher investment rate. People with higher scores may also have more income or education, and some may have learned through investing. Section 3.5 first examines the relationship using OLS, then explains why the available instrumental-variable analysis cannot establish a causal effect.

2.2.4. Gender differences in financial knowledge and participation

Women are less likely to own funds or listed shares: 11.1% do so, compared with 24.6% of men. Women also rate their financial knowledge lower. Some 15% describe themselves as not knowledgeable, compared with 10% of men.

The numerical questions show a difference too: 21% of women answer all four correctly, compared with 35% of men. We next examine whether the participation gap remains after these and other recorded differences are taken into account.

2.2.5. Regression evidence: OLS and limits to causal inference

We first use OLS to compare people with similar circumstances. As in Spain, the purpose is to establish whether the knowledge–investment relationship remains after differences in age, gender, education, employment, household income and housing wealth are taken into account. We estimate a linear probability model using OLS with the survey weights. It covers fund or share ownership and the broader measure that adds bonds and

voluntary pension-related products. The full models use 1 718 respondents with the required information (Table B1 and Table B2).

Adults who rate their financial knowledge more highly are more likely to invest, even after these characteristics are taken into account. Each step on the four-category scale is associated with 6.5 percentage points more fund or share ownership, and 7.6 points for the broader outcome. In a separate comparison, respondents who describe themselves as knowledgeable or very knowledgeable are 9.4 points more likely to hold funds or shares than the rest.

The gender gap remains after knowledge is included. With socio-economic controls alone, women's estimated participation is 12.7 percentage points lower than men's. Adding self-rated knowledge reduces it to 11.6 points; also including numerical ability reduces it to 11.1. Knowledge differences therefore do not fully account for the gap. The regressions do not identify what explains the remaining 11.1 points: risk preferences, decision-making within the household, wealth not captured by the controls, attitudes towards investing, trust or access could all contribute, alongside confidence, and the Dutch data do not allow these mechanisms to be separated.

Formal education is also associated with participation. University graduates are 18.1 percentage points more likely to hold funds or shares than adults in the lowest education group, after the model's other controls. The corresponding Spanish estimate is 16.5 points.

Table 8 includes self-rated knowledge and numerical ability together. Self-rated knowledge retains almost the same association with participation. Numerical ability adds less in 2022: the average increase per correct answer is only weakly statistically significant for funds and shares, and is not significant for the broader outcome. The clearest numerical difference is between those who answer all four questions correctly and the rest. With self-rated knowledge and other characteristics held constant, their fund-and-share participation is 6.5 percentage points higher (standard error: 2.6).

Table 8. Self-assessed knowledge and numeracy entered jointly

	Investment assets		Any investment product	
	Coef.	SE	Coef.	SE
Self-assessed knowledge (1-4)	0.064***	*(0.014)*	0.075***	*(0.016)*
Numeracy score (0-4)	0.016*	*(0.010)*	0.017	*(0.011)*

Source: DNB Household Survey (DHS) 2022, Centerdata; own estimation using Centerdata household weights.

Notes: each column block reports a linear probability model regression on the indicated outcome with the full set of controls as in column (3) of Table B1 and Table B2. Heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N = 1 718.

The distinction matters for interpretation. Feeling knowledgeable is not the same as answering numerical questions correctly, and neither measure alone captures all financial knowledge. Knowing without feeling knowledgeable holds people back; feeling knowledgeable without knowing exposes people to overconfidence. Programmes should therefore measure both and aim to bring confidence into line with actual knowledge, rather than select participants on self-reported confidence alone. The 2024 check finds a stronger additional association with numeracy.

Why OLS is not a causal estimate. Controlling for recorded characteristics does not tell us whether greater knowledge led people to invest or whether investing increased their knowledge. Self-ratings may also reflect that experience. We therefore examined an instrument based on whether parents or grandparents taught the respondent to budget between ages 12 and 16.

This childhood information was not sufficiently informative about adult self-rated knowledge to produce a precise investment estimate. The first-stage F-statistic was 9.4, and the 2SLS result was too uncertain to determine an effect. This is a limitation of the available instrument, not evidence that financial knowledge has no effect. We therefore retain OLS as evidence of an association and do not draw a causal conclusion from the Dutch instrumental-variable exercise. Annex B reports the diagnostics.

2.2.6. What the two countries show together

The comparison confirms the positive relationship between financial knowledge and direct investment in two different financial systems. Using self-rated knowledge, a measure available in both surveys, the estimated relationship is of a similar size: 4.6 percentage points in Spain and 4.9 in the Netherlands for an increase equal to one standard deviation. This expresses a comparable-sized change within each country's distribution rather than treating their different response scales as identical. The result holds after accounting for the other characteristics in the models.

This similarity coexists with a much larger employment-based pension system in the Netherlands. It suggests that knowledge remains relevant for personal investment decisions under different pension arrangements.

The findings also point to different learning needs. The Spanish results highlight understanding of diversification and the distinction between wrong answers and 'do not know'. This distinction changes what education should do for a group: correcting wrong beliefs calls for content, whereas overcoming uncertainty calls for formats that let people ask, practise and check their understanding without pressure, and for programmes designed for the problem their target group actually has. The Dutch results show the relevance of self-rated knowledge alongside numerical ability and a substantial gender gap in direct investment. A common policy objective need not require identical programmes for every group or country.

The comparison has limits. The surveys use different sampling methods and objective knowledge tests, and their broader pension-inclusive outcomes are not identical. The Dutch 2024 check and the smaller 2018 Big Three questionnaire support the main pattern, but do not remove these differences. The Spanish causal analysis remains conditional on its childhood-background assumptions, while the Dutch results remain associations. The joint summary in Box 1 brings together the findings that can be read most clearly across the two cases.

Box 1. Spain and the Netherlands: what financial knowledge adds to the investment picture

SPAIN | Understanding diversification stands out

What adults hold. The ECF 2021 covers 7 764 adults aged 18 to 79. Funds or listed shares are held by 19.8%: 11.6% hold funds and 13.5% shares, with some owning both, so the two figures overlap. Private pensions reach 20.7%; bonds and other fixed-income assets, 1.0%. The broader measure combining these investments reaches 31.5%.

How knowledge is measured. The Big Three is a test developed by Annamaria Lusardi and Olivia S. Mitchell to measure basic financial knowledge. Its three questions cover inflation (rising prices reduce purchasing power), compound interest (interest earns further interest) and diversification (spreading investments instead of relying on one company). Diversification reduces exposure to one investment's failure, but does not eliminate the risk of losses.

What the test shows. The correct-answer rates are 65.2% for inflation, 41.3% for compound interest and 52.0% for diversification. Only 18.9% answer all three correctly; 13.3% answer none correctly. Fund or share ownership rises from about 8% among adults with no correct answers to 36% among those with all three.

Knowledge and investment. Each additional correct answer is associated with 4.7 percentage points more fund or share ownership after accounting for age, gender, education, employment, income and housing wealth. The question-level estimates are largest for diversification: 8.7 points, compared with 2.9 for compound interest and 2.1 for inflation. Correct answers and self-rated knowledge each remain informative when included together.

Gender and uncertainty. Funds or shares are held by 17.0% of women and 22.6% of men. At least one 'do not know' answer is given by 35% of women and 22% of men, while incorrect-answer shares are similar. Women who are unsure say so; men are more likely to guess. The main adjusted participation gap is 3.6 percentage points. Knowledge differences therefore do not account for all of the gap.

THE NETHERLANDS | Broad pension coverage, modest direct investment

What adults hold. The DHS 2022 covers 2 381 adults aged 18 to 79. Funds or shares are held by 17.7%: 13.3% hold funds and 9.7% shares. The broader measure, including bonds and voluntarily held pension-related products, is 26.8%. Separately, 95.3% of

employed respondents report membership of an employment-based pension. This percentage has a different population and describes a different route into investment.

How knowledge is measured. This survey does not contain the Big Three. Respondents rate their financial knowledge in four categories and answer four questions about numerical probabilities. About 39% describe themselves as knowledgeable or very knowledgeable; 28.2% answer all four numerical questions correctly. This numerical test measures reasoning with probabilities, not investment knowledge itself.

Knowledge and investment. Fund or share ownership rises from about 5% in the lowest self-rating group to 35% in the highest. After personal and financial characteristics are taken into account, each step on the self-rating scale is associated with 6.5 percentage points more participation. The additional numerical relationship is clearest among those answering all four questions correctly, rather than a uniform increase at every score. Women's adjusted participation is 11.6 points lower than men's.

THE COMPARISON | Similar knowledge relationships in different systems

Knowledge remains relevant in both settings. The relationship with self-rated knowledge is similar after allowing for the different response scales: 4.6 percentage points in Spain and 4.9 in the Netherlands for a one-standard-deviation increase, a comparable-sized change within each country's distribution. The Dutch 2024 check finds a similar relationship. The large difference in pension saving therefore coexists with a similar relationship between knowledge and personal investment.

What can be concluded. The findings identify patterns and learning needs, not the effect of teaching an individual answer. Investing may also build knowledge. Spain's additional analysis uses childhood books to help address this reverse direction and finds a positive result, but it cannot exclude every family-background explanation. Education should be combined with action on access, costs and investor protection. Tested and self-rated knowledge both matter and are not interchangeable: programmes should measure both and bring confidence into line with knowledge.

Sources: authors' calculations and estimates using ECF 2021 (Banco de España) and DHS 2022 (Centerdata); Big Three framework: Lusardi and Mitchell (2014).

Notes: adjusted results include the socio-economic controls described in the text. The knowledge scales and broader pension-inclusive outcomes differ between countries; the gender estimates are not a formal cross-country test.

3. PART II. PUBLIC AND PRIVATE MEASURES ACROSS 10 MEMBER STATES

3.1. THE EU FRAMEWORK: THE REFERENCE POINT FOR NATIONAL ACTION

The EU's Savings and Investments Union strategy provides the common policy setting for this review. It links household wealth and participation in capital markets, while national authorities retain responsibility for many education, tax and delivery choices. Three elements are particularly relevant here: financial education, savings and investment accounts, and supplementary pensions. The country review retains its update cut-off of 9 September 2026 and distinguishes existing programmes from proposals (European Commission 2025a, 2025b, 2025c, 2025d).

The EU Financial Literacy Strategy emphasises coordination, practical education and evaluation. Its planned activities include exchanges between practitioners, national ambassadors, public communication and a voluntary code for private and not-for-profit education providers. Monitoring is to be carried out through the use of repeat surveys and the wider process for the Savings and Investments Union. These arrangements provide support for national action (European Commission 2025c).

The recommendation on savings and investment accounts asks Member States to make investment easier through accessible accounts, simple and targeted tax incentives, and less paperwork for savers. It draws on national experience, including Sweden's ISK and Denmark's Aktiesparekonto (ASK). It is non-binding: it does not itself create an account in each country, harmonise taxes or remove existing provider and investor protection obligations. National implementation is still required where the recommended arrangements are not already available (European Commission 2025d).

The supplementary-pension recommendation addresses the other route into capital markets. It invites Member States to consider automatic enrolment with an opt-out, pension tracking systems and dashboards. This differs from asking households to open and manage an investment account themselves (European Commission 2025b). The European Parliament's resolution on financial literacy and online financial promotion also highlights the need to connect education with protection against misleading information and fraud (European Parliament 2026).

3.2. FIVE DIMENSIONS OF NATIONAL ACTION

We use five dimensions because the national measures reviewed address five different practical problems: coordinating action, building knowledge, reducing tax and paperwork barriers, making investment accessible, and helping people to make informed choices.

The distinction is useful for this report's question: how can greater knowledge translate into investment decisions suited to a household's needs?

The first two dimensions describe how financial education is organised and delivered. The next three describe the setting in which people use that knowledge. This framework draws on the recurring measures in the country dossiers and the education, account design and investor information concerns covered by the EU initiatives. Income, wealth and the capacity to bear losses remain important; they are not separate programme categories in this mapping (European Commission 2025a, 2025c, 2025d).

3.2.1. Strategy and institutional coordination

Who leads and coordinates financial education policy? This dimension covers the national strategy, the authorities responsible, the public and private partners involved, and arrangements for setting objectives and monitoring delivery. It distinguishes an adopted strategy from a proposal and an institution's coordinating role from the programmes it actually delivers. These programmes belong in the second dimension.

3.2.2. Financial education programmes

How does financial education reach people? This dimension covers teaching in schools, teacher training, financial education weeks and months, online learning, workplace and community programmes, and courses provided by associations or financial institutions. In schools, the relevant distinction is between required content, a dedicated subject and actual classroom delivery. A campaign's existence or audience is recorded separately from evidence that participants learn or change their decisions.

3.2.3. Taxation and administrative simplification

How is investment taxed, and what paperwork must the saver complete? This dimension covers tax incentives, accounts with a specific tax regime, reporting and payment procedures, the treatment of losses and transfers between providers or investments. Sweden's ISK and Denmark's ASK appear here because of their tax and administrative arrangements. An account wrapper is the arrangement within which investments are held; it is not the underlying share, fund or bond. Tax generosity and administrative simplicity are separate features, as a procedure can become easier without increasing the subsidy (Skatteverket 2026; Skattestyrelsen 2026).

3.2.4. Products and access channels

What can a household invest in, and how can it do so? This dimension covers products offered to individuals and the practical conditions for buying and holding them: minimum amounts, recurring contributions, costs, distribution channels and access to

intermediaries. It brings together retail sovereign bonds and state savings products with fund and ETF savings plans and low-cost brokerage. These are different investments and channels, not steps on an assumed ladder from saving to equities. Funded pensions are identified separately where enrolment or a default, rather than an active retail decision, provides market exposure.

3.2.5. Investor information and protection

What information does the investor receive, and how are they protected when investments are promoted or sold? This dimension combines information quality with safeguards governing providers' commercial practices. Information quality means accurate, balanced, timely, accessible and comparable explanations of costs, possible losses, guarantees, investment horizons and withdrawal conditions. Protection also concerns conflicts of interest, misleading promotion, the boundary between education and sales, and fraud prevention. Here, market conduct means the behaviour of providers and promoters, not the investor's behaviour.

The distinction from financial education is straightforward: education builds a person's knowledge; clear product information helps that person understand a particular investment. The comparison records information services, disclosure duties and safeguards, and then examines what is known about their usefulness. A short document or a legal requirement to provide one is not, by itself, evidence that people understand it.

These are dimensions of analysis, not mutually exclusive product categories. A single measure can have more than one relevant feature. For example, the tax exemption of the French Plan d'Épargne Avenir Climat (PEAC) belongs in dimension 3, its eligibility and withdrawal conditions in dimension 4, and its requirement for clear information to young holders in dimension 5. Each feature is examined where it answers the relevant question, without treating the account as three separate interventions (Service-Public n.d.; Ministry of Economy, France n.d.).

Table 9 brings the five dimensions together. Read horizontally, it shows each country's mix of measures. Read vertically, it compares how countries address the same dimension. The entries identify initiatives, not a score of their quality or effectiveness. Shortened column headings correspond to the definitions above.

Table 9. National measures across the five dimensions

Country	1. Strategy and coordination	2. Education programmes	3. Tax and administration	4. Products and access	5. Information and protection
Netherlands	Money Wise Platform (2008), Ministry of Finance; mature partnership model	No dedicated universal module; Money Week and school projects; Nibud and VEB education	No dedicated wrapper; Box 3 actual-return reform pending (2028)	Low-cost execution-only brokerage; occupational pensions are a separate route	Non-commercial Money Wise information; VEB investor advocacy
Sweden	FSA mandate (2008); Gilla din ekonomi network	Compulsory embedded content; Gilla din ekonomi training; Aktiespararna and Ung Privatekonomi	ISK (2012): notional return tax; provider reports; shared SEK 300 000 exemption in 2026	Avanza and Nordnet brokerage; premium pension fund exposure, including a default	Fondkollen consumer fund information; provider explanations
Denmark	Finanstilsynet consumer-information role; former Money and Pension Panel abolished in 2020	Embedded in compulsory mathematics and social studies; Money Week (Finance Denmark)	ASK (2019): flat 17% mark-to-market, provider-run; ceiling DKK 174 200 (2026)	Nordnet, Saxo and bank monthly savings plans	Finanstilsynet consumer information on products and risks
Germany	OECD strategy proposal (2024); formal adoption not identified in review	Provision varies by Land; Planspiel Börse; Bundesbank materials and association programmes	Subsidised private pension reform enacted, products due 2027; Frühstart-Rente contributions proposed	Small-contribution ETF plans via brokers and banks; proposed childhood scheme has retirement lock-in	BaFin consumer information; Finanztest independent product assessments
France	EDUCFI (2016), Banque de France as operator	Passeport EDUCFI required for all 4e pupils from Sept. 2026; La finance pour tous; FBF school programme	PEA conditional income-tax exemption; PEAC tax exemption with eligibility conditions	PEAC youth plan with withdrawal restrictions; low-cost brokers and fractional investment apps	PEAC information duty; AMF fraud warnings and supervision of online promotion
Italy	Comitato Edufin (2017)	Required civic-education content (Law 21/2024), uneven delivery; education month; FEduF and investor academies	PIR (2017): conditional five-year exemption; issuer and portfolio restrictions	BTP Valore and BTP Italia retail issues; fund and ETF savings plans	Consob investor information and attention to online investment promotion
Spain	PEF (since 2008), CNMV, Banco de España and Ministry; successive four-year agreements (current cycle, under negotiation)	Transversal LOMLOE content; PEF school and adult programmes; extensive public-private network of 73 collaborating organisations	SIA account proposal; consultation closed Jan. 2026; conditional fund traspaso deferral	Retail Treasury bills; brokers and bank platforms with lower minimum investments	CNMV retail investor protection, fraud prevention and finfluencer supervision

Country	1. Strategy and coordination	2. Education programmes	3. Tax and administration	4. Products and access	5. Information and protection
Portugal	PNFF (2011), supervisors' council; 2026-30 plan published; evaluation project ongoing	Required content under 2025 citizenship strategy; Todos Contam; PNFF partner programmes	No dedicated wrapper	Non-traded savings certificates; broker and bank access to funds and ETFs	CMVM investor information and complaint handling
Romania	National Financial Education Strategy 2024-30	Compulsory module: grade 8 social education since 2020-21; BVB and ISF academies	Final withholding via qualifying intermediaries: 3%/6% from Jan. 2026 (formerly 1%/3%)	Fidelis listed bonds through BVB and banks; Tezaur through Treasury and post offices	Broker explanations alongside distribution; fraud-prevention priority in the strategy
Ireland	Strategy 2025-29 (Department of Finance, CCPC, Central Bank)	No dedicated universal module; Irish Funds school programme; community education and MABS	Exit tax 38%; Aug. 2026 roadmap proposes an investment account for 2027	International low-cost platforms; MyFutureFund auto-enrolment is a separate pension route	—

Source: authors' compilation from the country dossiers in Annex C, using the five dimensions defined above.

Notes: policy status is retained at 9 September 2026, with proposals distinguished from operational measures. Required school content is not necessarily a separate subject. Information entries identify provision or safeguards, not measured disclosure quality. '—' means that no specific initiative is identified in the dossier, not that the country lacks investor protection obligations. The institutional sources are listed in the References.

3.3. WHAT NATIONAL EXPERIENCE AND EVALUATIONS TELL US

The country review shows how policies work in practice; evaluations show what some of them achieve. Reading the two together avoids treating the existence of a strategy, an account or a document as proof of success. The five comparisons below combine national examples with the evidence on their results, and explain what can reasonably be taken forward into the recommendations.

3.3.1. Coordination: a strategy needs delivery and accountability

Countries organise financial education in different ways. The Dutch Money Wise partnership sits within the Ministry of Finance; Portugal uses its financial supervisors; Italy has the Comitato Edufin; Spain's Plan de Educación Financiera is jointly promoted by the CNMV, Banco de España and the Ministry; and the Banque de France operates France's national EDUCFI strategy on economic, budgetary and financial education. The country dossiers describe the organisations and their programmes (Money Wise n.d.; Conselho Nacional de Supervisores Financeiros 2026; Comitato Edufin 2025; CNMV 2026; Ministère de l'Éducation nationale 2026).

A national strategy also differs from the activity on the ground. Ireland and Romania adopted their first strategies in 2025 and 2024. Germany already has public and private education initiatives despite formal adoption of a national strategy not being identified in the reviewed sources. A missing strategy therefore does not mean that no programmes exist, just as a mature strategy does not show that all target groups are reached (Government of Ireland 2025; Government of Romania 2024; OECD 2024).

The review does not provide comparable estimates of the effect of adopting a strategy. Portugal's evaluation project illustrates an effort to build the capacity to assess results, not a completed impact estimate (Florence School of Banking and Finance 2025). The practical conclusion is to make responsibility, coverage and evaluation explicit, rather than use the age of a strategy as a measure of success.

3.3.2. Education: what is taught and delivered matters more than the label

Financial education can be compulsory without being a separate subject. Italy includes it in civic education, Romania in grade 8 social education, and Sweden and Denmark in other compulsory subjects. France began requiring the passeport EDUCFI module for fourth-year *collège* pupils in September 2026. Portugal's 2025 citizenship strategy requires financial literacy across school years. Spain uses cross-curricular content embedded across different subjects and through dedicated Economics and Entrepreneurship courses, complemented by regional elective courses, while German

provision varies by Land. The comparison should therefore ask what pupils must learn and what teaching they actually receive, not just whether a standalone subject exists (Italy 2024; Ministère de l'Éducation nationale 2026; Government of Portugal 2025; Government of Romania 2024; OECD 2024). Curricular content does not guarantee uniform exposure either. The Banco de España's independent evaluation of its financial education activity reviewed the Spanish curriculum. It found that some of the content depends on optional subjects, on the courses each school offers and on regional authorities' implementation of the 2020 education law (LOMLOE), so effective coverage varies across pupils (Banco de España 2026).

Italy provides a useful distinction between policy and implementation. Its monitoring finds uneven classroom coverage after the legal mandate. Money weeks, websites, employer programmes and industry-funded courses can extend reach, but attendance or visits do not show how much people learned. Teacher training, suitable materials and time for delivery need to accompany curricular commitments (Comitato Edufin 2025). Evidence on learning is thinner still: for most programmes, little is known about which content actually reaches pupils, which learning is retained and which translates into later decisions. The measures in Section 7.1 therefore track delivery and retention, not just curricular requirements.

There is stronger evidence for the effects of structured programmes than for the mere existence of strategies. Kaiser et al. (2022) review 76 randomised trials with more than 160 000 participants and find positive average effects on knowledge and subsequent financial behaviours. The Spanish school trial by Bover, Hospido and Villanueva (2018) also finds improved knowledge and changes in financial choices. Earlier evidence in Fernandes, Lynch and Netemeyer (2014) underlines variation in effects and their persistence.

The implication is to match education to real decisions, evaluate what participants retain and include investment concepts when investment is the objective. The Spanish results in this report provide a specific reason to explain diversification. Short lessons near the time of a first job, pension enrolment or first investment should be tested for understanding and decision quality, not judged by course attendance alone.

3.3.3. Taxation: separate simpler administration from more generous incentives

Sweden and Denmark illustrate how an investment account can reduce administrative demands, though their tax systems differ. Sweden's ISK taxes a calculated notional return: the provider calculates and reports that income. Denmark's ASK taxes the actual annual return, including unrealised gains, at 17%, with the provider calculating, deducting and

reporting the tax. Sweden's tax-free threshold and Denmark's deposit ceiling are also different features. These examples support examining which tasks can be removed from the saver, not copying a single tax formula (Skatteverket 2026; Skattestyrelsen 2026).

Other countries impose different conditions. France's Plan d'Épargne en Actions (PEA) relief depends on the holding period, while Italy's Piano Individuale di Risparmio (PIR) also has portfolio requirements. Spain already defers tax on qualifying fund transfers; a proposed new account must be considered alongside that rule. Romania uses final withholding through qualifying intermediaries. The Dutch Box 3 proposal and Ireland's account roadmap further illustrate why tax bases, losses, liquidity needs and reporting should be assessed together, and why proposals must not be treated as products already available (Service-Public n.d.; Agenzia delle Entrate 2021, 2022; Agencia Tributaria 2025; ANAF 2026; Eerste Kamer n.d.; Department of Finance, Ireland 2026). Beyond the 10 countries reviewed here, the Commission's Staff Working Document accompanying the recommendation on savings and investment accounts analyses existing accounts in other Member States, such as Estonia, Finland, Hungary, Latvia, Lithuania and Slovakia. It also cites Japan, where the NISA initially only allowed Japanese shares and selected funds, and concludes that the most successful accounts do not tie tax benefits to the geographical origin of the assets, a lesson relevant to Italy's PIR (European Commission 2025e).

Use is not the same as additional saving. Sweden's approximately 3.8 million unique ISK holders in 2023 show that the account is widely used, but not how many would otherwise have invested through another account (Fondbolagens förening 2024). The review does not isolate the effects of tax relief from easier administration or wider national circumstances. The two are different decisions: simplification costs the public purse little and helps whatever the tax regime, whereas an incentive costs money and needs to be justified by what it adds.

The conclusion is to simplify procedures on their own merits, then assess incentives for their cost, their distribution and the kind of additionality they generate. Three outcomes should be distinguished: genuinely new household saving; existing savings moved from deposits or cash into capital-market investments, or households brought into market participation for the first time; and investments already held simply transferred into a tax-advantaged wrapper. Given the Savings and Investments Union objective of channelling household savings into capital markets, the first two are additional in a meaningful sense; the third is reshuffling and should not be counted as success.

3.3.4. Products and access: take-up is not a complete measure of success

The review identifies several ways of making saving and investment accessible. Romania distributes listed Fidelis bonds through the exchange and banks, while Tezaur uses Treasury units and post offices. Italy offers dedicated retail government bonds, Portugal non-traded savings certificates, and Spain has seen strong household demand for Treasury bills. These routes differ in tradability, access and risk; they are not interchangeable first steps towards equity investment (Bucharest Stock Exchange 2024; Ministry of Finance, Romania n.d.; Ministero dell'Economia e delle Finanze n.d.; IGCP n.d.; CNMV 2026).

Private distribution also matters. The country dossiers describe low-cost brokers and small recurring fund or ETF contributions, particularly in Germany, Sweden and Denmark. These arrangements can reduce minimum investment sizes and make regular contributions easier. But low headline commission does not reveal all costs, and an ETF label alone does not guarantee diversification or low risk. Access must be assessed together with the product and the saver's needs.

Subscription data show demand, not what caused it or what happened afterwards. Fidelis raised RON 16.4 billion in 2024, but this sum does not identify unique first-time investors or later diversified holdings (Bucharest Stock Exchange 2024). The same issue arises with the number of accounts and savings plan growth. Employment-based pensions and automatic enrolment are a separate route: market exposure through a pension should not be counted as an active brokerage decision. The policy lesson is to remove unnecessary barriers while measuring who actually benefits, what they hold and whether participation is suitable and sustained.

3.3.5. Information and protection: test understanding, not just availability

National initiatives include non-commercial Money Wise information in the Netherlands, Fondkollen fund information in Sweden, Danish consumer information and independent product assessments in Germany. France's PEAC includes a requirement for clear explanations to young holders. Investor information, fraud warnings and oversight of online promotion also appear in several dossiers. These are useful examples of provision (Money Wise n.d.; Fondbolagens förening n.d.; Folketinget 2020; Service-Public n.d.; CNMV 2026).

Experiments provide more direct evidence about presentation. Kantar, Milieu and CEPS (2023) tested alternative disclosure formats for the European Commission and found that their usefulness for identifying lower-cost products varied across products and users.

Hayes, Lee and Thakrar (2018) found that drawing more attention to charges improved lower-cost fund selection on a simulated platform. These findings concern particular choices, not a demonstrated increase in long-term participation.

The practical conclusion is to explain costs, losses and withdrawal conditions clearly and test whether users understand them. Education and product information serve different purposes: the former builds knowledge, while the latter helps to apply it to a specific choice. Neither replaces safeguards against misleading sales, conflicts of interest and fraud.

The surveys used in Part I of this report do not measure the quality of information each respondent received, so the report cannot estimate its separate effect on participation. The playbook proposes a four-group test comparing existing and improved information, with and without a short educational module. This would test the contribution of information and education separately and together, while preserving required disclosures and the option not to invest.

The overall conclusion is to combine education, usable access and investor protection, while evaluating each intervention against its intended result. Part I identifies learning needs and participation gaps; the 10-country review identifies practical responses and limits in the evidence on their results. The playbook links each recommendation to these findings.

3.4. POLICY PLAYBOOK: 10 LEVERS FOR INFORMED RETAIL PARTICIPATION

AT A GLANCE: 10 practical actions in four linked stages, one shared objective.

STAGE 1 Build financial literacy where the gaps are

1 Make financial education work in schools

Give teachers training, classroom time and independent materials covering money, investment risks, diversification and costs.

2 Teach when decisions are made

Offer short, neutral lessons around a first job, pension enrolment or investment, with access to impartial help.

3 Identify participation barriers and target support

Establish why women and other underserved groups participate less before deciding whether knowledge, confidence, behaviour, access or other constraints need addressing; tailor support accordingly.

STAGE 2 Bring people in: remove frictions and reward new participation

4 Make investment paperwork simpler

Clarify tax rules, reporting and account transfers; let providers handle procedures where the law allows.

5 Reward new saving, not reshuffling

Target incentives at new participants and new saving, with simple procedures in place, and test whether they add participation at an acceptable public cost.

6 Make low-cost, diversified investment options accessible

Enable small voluntary contributions, transparent total costs and an easy way to pause or stop.

7 Use familiar savings channels to inform

Explain existing bonds, savings products and pensions, then offer neutral comparisons without pushing savers into greater risk.

STAGE 3 Make the decision informed and protected

8 Keep education separate from sales

Disclose funding, review content independently, identify commercial promotion and help people to recognise fraud.

9 Make information clear and test it

Explain costs, possible losses and withdrawal conditions; test understanding and compare better information with extra education.

STAGE 4 Evaluate and scale

10 Assign responsibility and fund evaluation

Name delivery owners and independent evaluators; expand programmes only when benefits justify costs without unacceptable harm.

THE GOAL: better decisions and financial resilience, not more investment by every household.

Notes: Summary of measures 7.1 to 7.10. Proposals to be tested and adapted to national circumstances; detailed actions, safeguards and evaluation criteria follow. Table 10 sets out the pathway and the order in which the levers should be taken up.

The 10 recommendations draw on two sources developed in this report: the econometric analysis of Spain and the Netherlands in Part I, and the 10-country review in Part II. Each recommendation begins by identifying the finding or national experience behind it. The published evaluations assessed in Section 6 provide additional support where available.

The household analysis identifies what people know and which of this knowledge relates to investment and which participation gaps remain. It informs the content and targeting of education. The country review identifies practical choices for delivery, taxation, access and protection, together with gaps in their evaluation. Where an effect has not been established, the recommendation specifies what should be tested before the intervention is expanded.

The 10 levers together form a pathway from financial literacy to retail investment, in four linked stages. The first stage builds literacy where the gaps are: school provision (7.1), education at the point of decision (7.2) and the identification of barriers before support is designed (7.3). It draws directly from Part I on what to teach, to whom and when.

The second stage brings people into the market by removing the frictions between knowing and investing and by rewarding new participation: simpler administration and tax procedures (7.4), incentives targeted at additional saving and new investors (7.5), accessible low-cost diversified products (7.6) and the savings channels households already use (7.7). It follows from the third conclusion of this report (Section 8), that knowledge and access are complements.

The third stage makes the decision informed and protected: a clear boundary between education and promotion (7.8) and investor information that people understand and can compare (7.9); access without clear information produces uninformed decisions.

The fourth stage closes the loop: named responsibilities, independent evaluation and expansion conditional on evidence (7.10), which apply to every other lever from the outset, as shown in Table 10.

Table 10. The pathway from literacy to investment: what each lever contributes, what it depends on and when it should start

Lever	What it contributes	What it depends on	When
Stage 1. Build financial literacy where the gaps are			
7.1 Make school provision deliverable	Basic knowledge for every cohort, including diversification, costs and losses	Teacher training, teaching time and materials; results arrive over curriculum cycles	Prepare in the first phase; measure delivery from the start
7.2 Put practical education at the point of decision	Investment-specific content when a decision is near	Delivery partners (employers, pension bodies, providers); formats to be tested	Pilot in the first phase; scale on evidence
7.3 Identify participation barriers and target support accordingly	Establishes whether a group's barrier is knowledge, confidence, behaviour or resources	Local needs assessments; separate recording of correct, incorrect and 'do not know' answers	Diagnosis in the first phase; programmes follow
Stage 2. Bring people in: remove frictions and reward new participation			
7.4 Simplify account administration and tax procedures	Removes paperwork and tax uncertainty at little fiscal cost	Legal design and provider involvement; no new subsidy needed	First phase
7.5 Target investment incentives and test their additionality	Brings new households and new saving into the market, where participation itself builds literacy	7.4 in place; costing; an evaluation design and comparison group from the start	With 7.4; expand only on evidence of additionality
7.6 Make low-cost, diversified investment options accessible	Gives knowledge somewhere to go: small contributions, transparent total costs	Supervisory scrutiny of all-in costs and distribution incentives	First phase, ongoing
7.7 Connect existing savings channels to informed choices	Uses bonds, certificates and pensions already held to explain alternatives	Established state-saving channels; no assumed ladder into equities	First or second phase, where channels exist
Stage 3. Make the decision informed and protected			
7.8 Protect the boundary between education and promotion	Keeps stages 1 and 2 credible: education is not a sales channel	Participation standards for endorsed programmes; disclosure of funding	First phase
7.9 Make investor information understandable, comparable and testable	Turns access into informed choice; tests whether information and education reinforce each other	Partners, data access, legal review and resources	Agreement in the first phase; results in the second and third
Stage 4. Evaluate and scale			
7.10 Fund evaluation, assign accountability and scale conditionally	Named owners, baseline data, independent evaluation and conditions for expanding every lever	Budget for baseline and follow-up; lawful access to provider data	From the outset, across all stages

Source: authors' synthesis of Sections 2 to 6.

Notes: the stages are linked: each conditions the next, and participation feeds back into literacy (see text). Phases refer to the indicative sequence described at the end of this section.

The pathway is a loop rather than a one-way sequence. Participation itself builds financial literacy: people learn about fees, returns and risk by investing, which is why Section 2.5 treats the direction of the relationship with care and why the empirical literature finds that financial experience raises measured literacy (Frijns, Gilbert and Tourani-Rad 2014). The levers in the second stage therefore feed back into the first. This strengthens the case for additionality in 7.5: the learning that comes with investing accrues only to households that enter the market, not to holdings transferred from one account to another. The order of implementation follows these dependencies rather than a ranking of importance: the first two stages and the evaluation framework start at the outset, the third runs alongside them, and incentives arrive once procedures are simple and their evaluation is designed, expanding on evidence of what they add.

Knowledge is one barrier among several. Behavioural research shows that inertia, loss aversion and overconfidence shape saving and investment decisions independently of what people know. Default options are powerful because many people never change them, and overconfident investors trade more and earn less (Madrian and Shea 2001; Barber and Odean 2001). Several levers thus use design features drawn from that literature, with the safeguards the evidence calls for: automatic contributions and defaults that are set in the saver's interest and easy to reverse (7.6 and 7.7), the identification of behavioural as well as knowledge barriers (7.3) and experimental testing of how information is presented (7.9). A default that enrols households into investments exposed to losses is a policy choice that needs the same evaluation as any other lever, not a technical adjustment.

The distinction between financial literacy and financial education drawn in the introduction applies to every lever. Part I measures the relationship between financial literacy and what people hold; the levers below are interventions intended to improve literacy and the conditions in which people decide. The associations in the data are not estimates of what a particular programme will achieve, which is why each lever specifies how its effect should be measured.

The objective is informed participation consistent with households' needs and financial resilience, not more investment by every household. Retaining liquid savings, repaying expensive debt or declining an unsuitable investment can be successful outcomes. The responsibilities below are proposed allocations to the relevant national authorities and market actors, subject to their legal mandates. Existing consumer-protection obligations remain the baseline; this playbook does not treat the recommendation on savings and investment accounts or the future voluntary education code as new binding law.

3.4.1. Make school provision deliverable

Basis in the report: 10-country review, supported by the Spanish findings. The review finds a gap between requiring financial education and delivering it in classrooms, illustrated by Italy's implementation monitoring (Section 6.2). The ECF also shows substantial gaps in basic knowledge (Section 2.2). Together, these findings push for structured school provision, not just a curriculum label; the programme evaluations reviewed in Section 6.2 provide further support.

Lead and action. Education ministries and curriculum authorities should specify age-appropriate learning outcomes, assign curricular time, train teachers and provide independently reviewed materials. Delivery can sit within a dedicated module or existing subjects, but responsibility cannot be left implicit. Budgeting and payments should be linked progressively to inflation, compounding, diversification, fees, liquidity and fraud recognition.

Safeguards and measures. Schools should retain control of content when industry contributes resources or volunteers; lessons should not collect sales leads or promote named products. Measure the share of pupils actually taught, teachers trained, delivery hours and changes in objective knowledge, including follow-up retention. Report coverage by region and school disadvantage.

3.4.2. Put practical education at the point of decision

Basis in the report: econometric findings for the content; 10-country review and programme evaluations for the delivery. The two sources support different parts of this recommendation. The econometric findings indicate what should be taught: diversification has the largest question-level association with investment in Spain, and only about half of adults answer that question correctly (Sections 2.2 and 2.5). They do not establish when or how that content should be delivered. The case for timing comes from the 10-country review and the evaluations assessed in Section 6.2. Specifically, national programmes already use workplace and retirement-awareness channels, including Sweden's adult programmes and Dutch pension-awareness initiatives (Annex C). The evaluation evidence supports matching education to real decisions and testing what participants retain. Together, these findings point to practical investment content delivered near the time of relevant decisions, with the timing and format of delivery treated as something to test rather than assume.

Lead and action. National strategy coordinators should work with employers, pension bodies, consumer organisations and authorised providers to offer short, neutral modules around the first job, pension enrolment, a first investment account and major changes in financial circumstances. General financial literacy (budgeting, inflation and compound

interest) should be the base, not the whole content. When the objective is informed participation, modules should also cover diversification, the relationship between risk and return, costs, liquidity and investment horizon. A central message is the difference between short-term volatility and the risk of permanent loss. For someone saving for a pension 25 years ahead, a larger but diversified allocation to equities can be expected to deliver higher returns, and its higher volatility tends to be offset over such a long horizon, whereas a heavy exposure to fixed income can be costly. Use realistic comparisons of risk, diversification, costs and liquidity, with a short knowledge check and a route to impartial help. Reinforcement should respond to observed learning needs, with content and follow-up evaluated rather than assuming that the same timing and frequency work for everyone.

Safeguards and measures. Education should not become a sales funnel or an additional access hurdle. Any knowledge check proposed here is educational, not a replacement for statutory appropriateness or suitability requirements. Compare delivery formats and timing through pilots, measured comprehension, retention, use of help and the quality of subsequent choices, rather than only attendance or account-opening conversion.

3.4.3. Identify participation barriers and target support accordingly

Basis in the report: econometric findings. Participation gaps between women and men remain after knowledge and socio-economic characteristics are included, indicating that differences in measured financial knowledge explain only some of the gap. Spain's 'do not know' responses also distinguish uncertainty from incorrect beliefs, while tested and self-rated knowledge are not interchangeable (Sections 2.4–2.5 and 3.4–3.6). These findings support identifying the specific barriers faced by different groups before determining whether the appropriate response concerns knowledge, confidence, access or other constraints. Behavioural barriers add to these: inertia, loss aversion and overconfidence can hold back or distort participation even where knowledge is adequate (see the introduction to this section). For women in Spain, the barrier is partly confidence: they answer 'do not know' more often, while their share of incorrect answers is similar to men's, and each correct answer is associated with less additional participation among women (3.3 points) than among men (6.1).

Lead and action. Strategy coordinators and consumer organisations should use local needs assessments to identify barriers faced by adults with low formal education, limited disposable income or digital access, and women underserved by existing channels. Where knowledge gaps, behavioural biases or uncertainty are identified as barriers, combine practical education with opportunities to ask questions without pressure or embarrassment, using community, workplace and accessible offline delivery as well as digital tools.

Safeguards and measures. Support should distinguish a knowledge, behavioural or access problem from an inability to bear losses or spare cash, and should not assume that lower participation necessarily reflects insufficient knowledge or confidence. Avoid targeting solely on self-reported confidence, which may also reflect experience. Record the correct, incorrect and 'do not know' answers separately when assessing learning needs, rather than treating uncertainty and incorrect beliefs as identical. Measure objective understanding and the calibration of confidence against it, programme reach, costs and suitable participation by target group. Record improvements in debt management and financial resilience as valid outcomes rather than failures to generate investment sales.

3.4.4. Simplify account administration and tax procedures

Basis in the report: 10-country review. Sweden's ISK and Denmark's ASK show different ways for providers to calculate, report or collect tax, while the Spanish and Irish cases illustrate the need to fit new accounts around existing rules (Section 6.3).

Lead and action. Finance ministries and tax authorities, with supervisors and providers, should map and address the administrative obstacles facing small investors before designing or extending a savings and investment account. Priorities are understandable eligibility, provider-assisted reporting and payment where legally available, transparent transfer procedures and clear interaction with existing pension, fund and insurance taxation. Cross-border access must use the applicable authorisation and tax framework; the Commission blueprint does not supply a separate passport. Sweden and Denmark illustrate administrative simplification, not a single tax formula that every country should copy (European Commission 2025d; Skatteverket 2026; Skattestyrelsen 2026). For countries designing a new account, such as Spain and Ireland, the account's value to savers will depend at least as much on being simple to open, understand and transfer as on the tax treatment attached to it.

Cross-border dimension. National account and tax-reporting solutions should be open, without discrimination, to providers authorised in other Member States, so that they can plug into them on the same terms as domestic providers. More cross-border competition would have positive effects on prices and innovation. Comprehensive information on the applicable tax treatment should be easily accessible to savers and to providers from other Member States. Two layers of taxation add complexity: tax on capital gains and withholding tax on dividends. Reclaiming excess withholding tax from another Member State is slow and costly for small investors, whereas brokers can in some cases apply reduced treaty rates at source on US securities, which can make investing in the United States more convenient than investing elsewhere in Europe. The FASTER Directive requires relief at source or a quick refund from 2030 (Council of the European Union

2024); whether it removes this obstacle for retail investors, or further measures are needed, deserves independent research.

Account design. Accounts should not limit the assets that can be held to the amount that benefits from the tax advantage. A hard cap forces savers to open a second, ordinary account for the rest, which brings back the full complexity and can reduce the overall amount invested. Sweden applies its tax-free threshold to the first tranche of the capital base without capping the assets held, whereas Denmark caps deposits; this design difference may contribute to differences in take-up between the two countries, although this review does not test it (European Commission 2025e).

Safeguards and measures. Assess administrative simplification separately from the generosity of tax incentives, as reducing reporting and transfer burdens does not necessarily require new subsidies. Limited budgetary space is no reason for inaction: simplification alone can make a meaningful difference for retail investors. Simplification should preserve applicable investor-protection obligations and make tax liabilities easier to understand, not less visible. Monitor filing errors, administration and transfer costs, and the practical difficulties reported by small and first-time investors. These indicators should establish whether procedures have become easier to use; the additional effects of any financial incentive should be evaluated separately as set out in Section 7.5.

3.4.5. Target investment incentives and test their additionality

Basis in the report: 10-country review. France and Italy attach conditions to tax relief, and Sweden reports substantial account use, but the review cannot distinguish new investment from transfers of existing holdings (Section 6.3). This evidence gap underpins the testing of additional saving, distribution and the public cost of an incentive before expanding it, rather than assuming that a large account balance proves success. An incentive that brings households into the market for the first time has a further payoff: participation itself builds financial literacy (Section 2.5; Frijns, Gilbert and Tourani-Rad 2014), a return that transfers of existing holdings do not produce. Children's investment accounts, such as Germany's proposed Frühstart-Rente (Annex C) and schemes under discussion in other Member States, are a clear case. They can raise interest in capital markets among holders and their parents, and by adulthood holders will typically have seen at least one major fall and recovery in the value of their account, which teaches the difference between short-term volatility and the risk of losing capital, and the value of staying invested.

Lead and action. Finance ministries and tax authorities should assess whether proposed investment incentives address the barriers and target groups identified in the national strategy before introducing or expanding them. Assess actual-gain and notional-return

approaches, loss treatment and liquidity demands together, rather than comparing headline tax rates alone. Avoid tying the tax advantage to the geographical origin of eligible assets, which can hamper take-up (Section 6.3). Cost any exemption or matching contribution before adoption and examine how its benefits would be distributed by income and wealth. The objective is not to maximise the generosity of support, but to establish whether it can generate additional, sustained participation or saving at an acceptable public cost.

Safeguards and measures. Distinguish the three outcomes set out in Section 6.3: genuinely new saving; existing savings or new households brought into capital-market investment; and transfers of existing holdings into a subsidised wrapper. Only the first two are additional. An increase in account numbers or assets held within the scheme does not, by itself, establish additionality. Evaluate funded accounts held by previously non-participating households, net additional saving and public cost per additional sustained participant, using a credible comparison group where feasible. Report the distribution of benefits alongside aggregate outcomes, and make expansion conditional on evidence that the incentive is achieving its intended purpose rather than mainly subsidising investments that would have occurred anyway.

3.4.6. Make low-cost, diversified investment options accessible

Basis in the report: 10-country review, informed by the Spanish knowledge results. The German, Swedish and Danish dossiers identify small recurring investments and low-cost distribution as practical access arrangements (Section 6.4). Spain's results also identify a gap in understanding diversification (Sections 2.2 and 2.5). These findings call for accessible, diversified options with transparent total costs.

Lead and action. Authorised providers should offer small, voluntary recurring contributions, easy cancellation or suspension and clear access to diversified, non-complex products appropriate to the intended holding period. Supervisors should scrutinise total charges and distribution incentives rather than treating a low headline commission as proof of low cost. Account and product comparisons should show ongoing fund charges, account fees, dealing costs and any foreign-exchange costs. The 'simple advice' concept agreed in the Retail Investment Strategy, limited to well-diversified, non-complex and cost-efficient financial instruments, is intended to make it easier and less costly for distributors to offer such options. More cross-border competition, breaking up national silos, would widen choice, support innovation and lower costs for investors (Council of the European Union 2025; European Commission 2026).

Safeguards and measures. A fund or ETF label does not guarantee diversification, low risk or low cost. Education should explain emergency liquidity needs and the possibility of

loss; it cannot replace the provider's applicable conduct duties. Automatic contributions should follow informed authorisation, not an assumed mandate to enrol households into investments that expose them to losses. Track all-in costs for representative small balances, diversification, contribution persistence, cancellations, complaints and harmful trading patterns, alongside take-up.

3.4.7. Connect existing savings channels to informed choices

Basis in the report: econometric findings and 10-country review. The Spain–Netherlands comparison distinguishes investments held personally from exposure through employment-based pensions (Sections 3.2 and 3.6). The review identifies established government bond and savings certificate channels in Romania, Italy, Spain and Portugal (Section 6.4). These provide opportunities to explain existing holdings and alternatives.

Lead and action. Debt-management offices, pension bodies and consumer-education coordinators should offer neutral information alongside sovereign-bond subscriptions and maturities, savings-certificate statements and pension communications. Explain the product already held before presenting other options: access conditions, inflation exposure, credit risk, possible losses on early sale and the role of diversification. Retirement auto-enrolment, such as Ireland's MyFutureFund, should remain a distinct channel governed by its national framework, not be counted as an active brokerage decision (Department of Social Protection, Ireland 2026).

Safeguards and measures. There should be no automatic ladder from state-backed saving into higher-risk products. Non-traded savings certificates need not involve a securities account, and not every pension member actively selects funds. Evaluate whether recipients understand these distinctions and subsequently make choices consistent with their horizon and liquidity needs. Use unique-person and longitudinal data where lawfully available; gross issuance, account totals or assets rising with markets do not measure first-time participation.

3.4.8. Protect the boundary between education and promotion

Basis in the report: 10-country review. Non-commercial information in the Dutch Money Wise model, industry participation in education, and oversight of investment promotion in France and Spain make the boundary between teaching and selling a concrete design issue (Section 6.5 and Annex C).

Lead and action. National strategy coordinators, education partners and supervisors should agree transparent participation standards for publicly endorsed programmes: disclosed funding, independent content review, no product-specific sales incentives and a clear complaints route. The disclosure-quality action in Section 7.9 applies the same

concern for clear, balanced information to the investment decision itself. Fraud education should include checking authorisation and recognising conflicts in online promotion. The planned EU voluntary code can inform future alignment, but should not be presented as an existing licence or accreditation scheme (European Commission 2025c; European Parliament 2026; Money Wise n.d.).

Safeguards and measures. Participation in an education initiative must not imply regulatory endorsement of a firm or product. Commercial material should be identified as such, and education should not be used to excuse poor product design or mis-selling. Monitor independent content-audit results, understanding of risk and costs, undisclosed commercial links and complaints. Assess fraud recognition and safe responses to suspicious approaches, rather than relying on page views or social media reach.

3.4.9. Make investor information understandable, comparable and testable

Basis in the report: 10-country review and the evaluations assessed alongside it. The country dossiers identify information services and disclosure duties, but not comparable evidence that investors understand them. Experiments reviewed in Section 6.5 show that presentation can affect particular choices. This highlights the importance of testing clarity directly and separating it from education.

Lead and action. Supervisors, providers and consumer organisations should work with an independent evaluator to audit a defined sample of comparable investment products and distribution channels across the 10 countries. Use a common rubric to record what information is supplied before a decision, then test understanding with investors and non-investors. Pilot layered explanations of all-in costs, possible losses, guarantees and withdrawal conditions, distinguishing short-term volatility from the risk of permanent loss over the intended holding period, using consistent assumptions for comparisons and retaining access to the complete documents. Include mobile and non-digital delivery and users with different literacy levels. Clear and understandable information is a key objective of the Retail Investment Strategy, and the Level 2 measures that implement it should be developed with that objective in view: the Commission's mandate to ESMA asks that disclosures be easily comprehensible by the target audience and tested with consumers where feasible (European Commission 2026).

Testing design. Subject to legal review and sufficient sample size, randomly assign participants to four groups: existing compliant disclosure; improved disclosure; existing disclosure plus a short educational module; and improved disclosure plus the same module. Keep the products, prices, advice and access conditions unchanged across groups. This separates the disclosure effect from the education effect and tests whether

the two reinforce each other. Start with controlled decision tasks and, where feasible and ethically appropriate, follow with a live pilot that includes potential first-time investors.

Safeguards and measures. All groups must receive required information and retain the option not to invest. Pre-specify primary outcomes, sample size requirements, the interaction test and subgroup analyses. Report effect sizes and confidence intervals as well as statistical significance. Measure objective understanding, comparison accuracy and choices consistent with the participant's needs. Separately track funded participation, all-in costs, persistence and complaints. Reading time, clicks or increased sales alone are not evidence of success. Do not scale an intervention that improves take-up by obscuring losses or encouraging unsuitable choices.

3.4.10. Fund evaluation, assign accountability and scale conditionally

Basis in the report: 10-country review and its evaluation gaps. Coordinating arrangements differ, and the review often finds coverage or take-up data rather than estimates of what programmes achieve. Portugal's evaluation-capacity project is one response (Sections 6.1–6.5). These findings make the case for named delivery responsibilities, independent evaluation and clear conditions for expanding a measure.

Lead and action. Each national strategy should name a coordinating authority, the delivery owner for each intervention and an independent evaluator, with an explicit budget for baseline data and follow-up. Finance ministries should own fiscal decisions, education authorities classroom delivery and supervisors the conduct rules within their mandates. Providers can supply delivery and administrative data, subject to lawful access and privacy safeguards, but they alone should not determine whether their programme is successful.

Safeguards and measures. Pre-specify the target group, intended outcome, comparison group, costs and conditions for scaling, revising or stopping a pilot. Use randomised or phased rollout where feasible and otherwise explain the limits of attribution. A common dashboard should distinguish objective knowledge, resilience, unique funded participation, net contributions excluding transfers and valuation gains, all-in costs, the diversification of holdings, persistence at 12 and 24 months, and consumer harm. Analyse who benefits, not just average take-up. The indicators should capture not only the quality of the decisions taken, but also whether a person invests: a household that keeps a liquidity buffer, diversifies and pays low costs is a better outcome than one more account. Scaling should depend on credible benefits relative to costs without unacceptable harm, rather than an account-opening target alone.

3.4.11. Implementation sequence and national adaptation

The following phases are an indicative sequence for ordering the work, not a timetable derived from the analysis; their duration will depend on each country's legislative calendar and institutional capacity. A first phase should establish ownership, map existing provision, tax barriers and information quality, agree safeguards and collect baseline data. In a second phase, authorities and delivery partners should pilot the educational, disclosure and access measures, complete the legal and fiscal design work needed for account changes, and build the data infrastructure for evaluation. In a third phase, they should assess the 12- and 24-month outcomes tracked under Section 7.10 and expand, revise or stop interventions accordingly.

The package should build on existing institutions rather than require all 10 countries to introduce the same product. Sweden and Denmark can concentrate on inclusion, costs and evidence of additional participation within existing wrappers. The Netherlands should distinguish direct retail decisions from occupational pension exposure when assessing tax and education measures. Spain and Ireland can link account design to tax administration and evaluation from the outset, recognising their different legislative stages. Romania and Portugal can test neutral education through established state-saving channels without assuming subsequent equity investment. France, Italy and Germany should assess the additional eligibility, portfolio and withdrawal constraints of their targeted wrappers and retirement schemes. National authorities should confirm these priorities, responsibilities and costs against their own institutional constraints when they adopt the sequence.

Conditions for the longer-term levers. The information audit and disclosure experiment in Section 7.9 require agreement on scope, partners, data access, legal review and resources.

4. OVERALL FINDINGS

Three conclusions emerge when the two parts of this report are read together; the initial two are findings, the third an interpretation. The first is that financial knowledge is not a soft variable. In two countries with very different financial systems, and with alternative instruments, it is strongly associated with direct participation in capital markets. The association survives the full set of socio-economic controls. The Spanish instrumental-variable evidence is consistent with a causal effect, conditional on the family-background assumptions set out in Section 2.5, with the direction of the effect better established than its size. At the same time, the similar participation rates of Spain and the Netherlands, about one adult in five, show that knowledge alone does not determine outcomes. Institutional architecture, most visibly in the Dutch occupational pension system, shapes where and how household saving reaches capital markets.

The second finding is that, on the policy side, delivery and simplicity matter more than labels. Sweden and Denmark illustrate how a single account wrapper, predictable taxation and administration handled by providers rather than by savers can coexist with broad participation. The countries that have made financial education compulsory are still working to deliver it in classrooms. Gateway products such as retail sovereign debt show that households engage with securities when instruments are simple, trusted and accessibly distributed, although strong demand for them does not in itself lead to diversified investment.

The third connects the two parts and is an interpretation suggested by the combined evidence rather than a result tested in this report: knowledge and accessible products are likely to be complements. Part I finds an association between knowledge and participation and Part II identifies access measures, but the report does not test whether the relationship with knowledge is stronger where products are more accessible, or the reverse. The proposition is that knowledge matters most where households face a genuine choice, at the margin of direct investment and voluntary long-term saving, and that education programmes deliver most where they are paired with simple, well-designed products and clear information. The four-group disclosure experiment in Section 7.9 is designed to test some of it. Two patterns from Part I deserve explicit attention: the gender gap in participation that persists among women and men with the same knowledge and circumstances and which is wider in the Netherlands than in Spain, and the particular weight of understanding diversification in Spain.

The 10 policy levers in Section 7, organised as four linked stages from literacy to investment (Table 10), translate these conclusions into a playbook for national authorities and market participants. The playbook does not require every country to adopt the same product or programme. Levers that build literacy, simplify access and protect a decision

can be put in place anywhere at low cost. Education programmes, incentives and information measures should be piloted, evaluated and expanded on evidence of what they achieve. Better decisions, not more accounts, remain the measure of success.

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ANNEX A. FULL ECONOMETRIC TABLES: SPAIN

This annex contains the full econometric material behind Section 2.5: the ordinary least squares (OLS) specifications and results, the instrumental-variable analysis and the sensitivity checks. Table 4 in the main text presents the headline OLS and two-stage least squares (2SLS) comparison.

We next examine whether the relationship between financial literacy and market participation remains visible once other relevant characteristics are taken into account. These include age, gender, education, labour status, household income and housing wealth. The purpose is to assess whether financial literacy is associated with market participation over and above these other factors.

We estimate this relationship using a linear probability model (LPM):

$$\Pr(participate_i = 1) = \beta \cdot literacy_i + \gamma' \mathbf{X}_i + \varepsilon_i$$

where $literacy_i$ is the Big Three score, ranging from 0 to 3, or alternatively an indicator for answering all three questions correctly. $\mathbf{X}_i$ is a vector of socio-demographic controls.

We use two definitions of participation ($participate_i$). The first is a narrow measure, restricted to investment assets, defined here as investment funds or listed shares. This corresponds to the standard outcome used in the literature on the 'stockholding puzzle', namely the observation that household participation in equity markets is far lower than standard portfolio theory would predict given the historical equity premium (Mankiw and Zeldes 1991; Haliassos and Bertaut 1995; Guiso, Haliassos and Jappelli 2003). Van Rooij, Lusardi and Alessie (2011) show that financial literacy is one of the most robust correlates of stockholding, plausibly accounting for a substantial share of the participation gap.

The second is a broad measure that also includes private pension plans and fixed-income securities. This measure aligns with the policy framing of the Savings and Investments Union (European Commission 2025a), where the question of interest is participation in capital markets as a whole rather than in equity instruments specifically.

The model is estimated using ECF population weights, with heteroskedasticity-robust standard errors. We report LPM results because the coefficients can be read directly as percentage-point changes in participation[1]. Table A1 and Table A2 show the results across four versions of the model. Column (1) shows the raw relationship without

[1] Probit and logit estimates produce qualitatively identical results, with average marginal effects of the literacy score within half a percentage point of the LPM coefficients (0.042 and 0.041 against 0.047 for investment assets).

controls. Column (2) adds age, gender and educational attainment. Column (3) adds the full set of controls: labour status, log household income, and ownership of the main residence and additional properties. Column (4) replaces the linear literacy score with an indicator equal to one if the respondent answers all three Big Three questions correctly.

The relationship between financial literacy and the probability of holding investment assets is robust. Without controls, each additional correct answer in the Big Three is associated with a 9.4 percentage-point increase in participation. The coefficient falls once education and income are added, showing that some of the raw relationship reflects broader socio-economic differences. However, the association remains strong and statistically significant. With the full set of controls, each additional correct answer is associated with 4.7 percentage points higher probability of holding investment assets.

The magnitude is meaningful. Moving from zero to three correct answers is associated with an increase of around 14 percentage points (3x0.047) in the probability of holding investment assets, compared with a baseline participation rate of about 20% (i.e. 19.8%). The dummy specification in column (4) confirms the pattern: respondents who answer all three questions correctly are 10 percentage points more likely to hold investment assets than the rest, conditional on the same covariates. Entering the score as three indicators rather than linearly (not reported in the tables) shows that the gradient is convex: relative to adults who answer no question correctly, one correct answer is associated with 2.0 percentage points more participation in investment assets (not significant), two with 6.2 points and three with 13.8 points, and a Wald test rejects equal steps at the 5% level ($p = 0.02$). The linear coefficient should therefore be read as the average of increasingly larger steps, with most of the association arriving with the third correct answer. For the broad measure the steps are 2.0, 6.1 and 12.9 points and equal steps are not rejected ($p = 0.12$). The order of magnitude is consistent with the estimates reported by Van Rooij, Lusardi and Alessie (2011) for the Netherlands and by Bucher-Koenen and Lusardi (2011) for Germany.

The estimates on the control variables follow expected signs. The participation gap by gender stands at 3.6 percentage points after full controls. The gradient by educational attainment is steep: holders of a university degree are 17 percentage points more likely to hold investment assets than holders of primary education, even after adjusting for income and wealth. Household income is also strongly associated with participation. Ownership of properties beyond the main residence is associated with a further 7-percentage-point increase in the probability of holding investment assets, suggesting that investment in financial markets often complements, rather than replaces, other forms of household wealth.

We then turn to the broader definition of participation. Table A2 reports the same four specifications on the indicator for holding any investment product, that is, investment funds, listed shares, fixed-income securities or private pension plans. This is the policy-relevant outcome in the context of the Savings and Investments Union.

The relationship remains when participation is defined more broadly. With the full set of controls, each additional correct answer is associated with a 4.5 percentage-point increase in the probability of holding any investment product, essentially identical to the 4.7-percentage-point estimate for investment assets. In absolute terms, therefore, the association with financial literacy does not depend on the definition of participation. In relative terms, however, the gradient is sharper for the narrow outcome: the move from zero to three correct answers is associated with a 70% increase in the probability of holding investment assets, against 43% for any investment product. In practical terms, financial literacy is associated with both broad investment participation and equity-like participation, but its relative importance appears stronger for riskier products such as funds and shares.

A comparison of the control coefficients across Table A1 and Table A2 sheds light on the underlying mechanisms. The gradient by educational attainment is substantially steeper for the broader outcome (20 percentage points for tertiary education, against 17 for investment assets), and the coefficient on log household income is also markedly higher (0.19 against 0.13). Both patterns are consistent with the role of private pension plans, whose take-up is highly responsive to formal education and disposable income. By contrast, the literacy coefficient itself barely moves across outcomes, suggesting that the literacy channel is, to a first approximation, separable from the socio-economic channels.

Table A3 reports associations for each of the three literacy questions using the full set of socio-economic controls. For investment funds or listed shares, the diversification coefficient is 0.087, compared with 0.021 for inflation and 0.029 for compound interest. Its point estimate is therefore about three to four times as large, although all three coefficients are positive and statistically significant. For the broad outcome, diversification remains largest at 0.071, compared with 0.033 for inflation and 0.028 for compound interest. The table does not report a formal test of differences between these coefficients. Nor does it isolate pension ownership: the broad outcome also includes funds, shares and bonds. The results thus support highlighting diversification in the discussion of financial knowledge, but not claiming that inflation or compounding matter more for pensions, that one question accounts for a measured share of the overall literacy association, or that teaching diversification causes greater participation.

Table A1. Financial literacy and the probability of holding investment assets, Spain

	(1)	(2)	(3)	(4)
Financial literacy score (0–3)	0.094***	0.060***	0.047***	—
	(0.005)	*(0.005)*	*(0.005)*	
All three questions correct (1/0)	—	—	—	0.099***
				(0.014)
Female	—	−0.051***	−0.036***	−0.039***
		(0.010)	*(0.010)*	*(0.010)*
Secondary education	—	0.099***	0.070***	0.073***
		(0.012)	*(0.012)*	*(0.012)*
Tertiary education	—	0.230***	0.165***	0.171***
		(0.012)	*(0.013)*	*(0.013)*
Log household income	—	—	0.132***	0.136***
			(0.011)	*(0.011)*
Owns main residence	—	—	0.043***	0.042***
			(0.010)	*(0.010)*
Owns additional property	—	—	0.069***	0.070***
			(0.011)	*(0.011)*
Age and age²	No	Yes	Yes	Yes
Labour status (5 categories)	No	No	Yes	Yes
Observations	7 764	7 764	7 764	7 764

	(1)	(2)	(3)	(4)
R^2	0.049	0.131	0.173	0.171

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own estimation using population sampling weights.

Notes: heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: indicator equal to one if the respondent holds investment funds or listed shares. Baseline rate in the sample: 19.8%. Coefficients on age, age² and the four labour-status dummies are estimated but not reported.

Table A2. Financial literacy and the probability of holding any investment product, Spain

	(1)	(2)	(3)	(4)
Financial literacy score (0–3)	0.110***	0.064***	0.045***	—
	(0.006)	*(0.006)*	*(0.006)*	
All three questions correct (1/0)	—	—	—	0.092***
				(0.015)
Female	—	−0.066***	−0.041***	−0.043***
		(0.012)	*(0.011)*	*(0.011)*
Secondary education	—	0.141***	0.107***	0.111***
		(0.015)	*(0.015)*	*(0.015)*
Tertiary education	—	0.305***	0.199***	0.205***
		(0.014)	*(0.015)*	*(0.015)*
Log household income	—	—	0.190***	0.194***
			(0.013)	*(0.013)*
Owns main residence	—	—	0.076***	0.075***
			(0.012)	*(0.012)*

	(1)	(2)	(3)	(4)
Owns additional property	—	—	0.077***	0.078***
			(0.012)	*(0.012)*
Age and age²	No	Yes	Yes	Yes
Labour status (5 categories)	No	No	Yes	Yes
Observations	7 764	7 764	7 764	7 764
R^2	0.049	0.155	0.231	0.229

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own estimation using population sampling weights.

Notes: heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: indicator equal to one if the respondent holds investment funds, listed shares, fixed-income securities or private pension plans. Baseline rate in the sample: 31.5%. Coefficients on age, age² and the four labour-status dummies are estimated but not reported.

Table A3. Disaggregating the Big Three

	Investment assets		Any investment product	
	Coef.	SE	Coef.	SE
Inflation (correct)	0.021**	*(0.010)*	0.033***	*(0.012)*
Compound interest (correct)	0.029***	*(0.010)*	0.028**	*(0.012)*
Risk diversification (correct)	0.087***	*(0.010)*	0.071***	*(0.011)*

Sources: Survey of Financial Competences (ECF) 2021, Banco de España; own estimation using population sampling weights.

Notes: each column block reports an LPM regression on the indicated outcome with the full set of controls as in column (3) of Table A1 and Table A2. Heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N = 7 764.

Instrumental-variable detail and robustness

The conditional association documented in the previous section is robust, but it still does not prove that financial literacy causes higher market participation. Three issues (i.e. sources of endogeneity) may affect the estimate. First, financially literate individuals may

differ from others in unobserved ways, such as cognitive ability, risk tolerance, time preferences or trust in financial institutions. Second, causality may run in both directions, as people who invest may acquire financial knowledge through experience (the *learning-by-investing* channel). Third, the Big Three score is an imperfect measure of financial literacy, which may weaken the estimated relationship. To address these concerns, we estimate a 2SLS specification.

Our preferred instrument is the number of books in the household when the respondent was 10 years old, recorded in the ECF on a five-point scale from 'none or very few' to 'more than two bookcases'. We use it as an indicator of early exposure to learning. Its usefulness depends on both its relationship with adult knowledge and the assumption that, after the controls, it has no other effect on investment.

One of the advantages of this instrument is that it is determined long before the respondent's adult investment decisions. It therefore cannot be caused by later participation in financial markets. The assumption is that childhood exposure to books affects adult market participation mainly through its effect on financial literacy, rather than through other channels. This assumption is more plausible once we control for education, income, labour status and housing wealth. However, it cannot be tested directly. If the instrument also captures unobserved cognitive ability, the 2SLS estimates may overstate the true causal effect. The same applies to family background channels that the adult controls do not fully absorb: a book-rich home may also signal parental wealth, the prospect of inheritances or intergenerational transfers, and a family culture of saving and investing, any of which could raise participation independently of literacy. The parental occupation controls and the Conley bounds reported below address these channels in part, but cannot rule them out, and the causal estimates should be read with this residual threat in mind.

Table A4 reports the first-stage regression, which tests whether the instrument is strongly related to adult financial literacy. The relationship is statistically strong: each additional category on the books-at-age-10 scale is associated with a 0.061-point increase in the Big Three score ($t = 6.2$), after controlling for demographic and socio-economic characteristics. The first-stage F-statistic is 38.4, well above the conventional threshold of 10, indicating that weak-instrument concerns are not material[2].

[2] The first-stage F-statistic tests whether the instrument is sufficiently correlated with the endogenous variable, in this case financial literacy. A low value would indicate a weak instrument and make the 2SLS estimates unreliable. As a rule of thumb, values above 10 are commonly considered acceptable (Andrews, Stock and Sun 2019).

Table A4. First-stage regression: financial literacy score on the instrument and controls

	Coefficient	Std. error
Books in the home at age 10 (1–5)	0.061***	*(0.010)*
Female	−0.295***	*(0.024)*
Secondary education	0.303***	*(0.034)*
Tertiary education	0.490***	*(0.033)*
Log household income	0.285***	*(0.031)*
Owns main residence	−0.015	*(0.029)*
Owns additional property	0.039	*(0.025)*
Age and age²	Yes	
Labour status (5 categories)	Yes	
Observations	7 701	
R^2	0.147	
F-statistic on excluded instrument	38.4	

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own estimation using population sampling weights.

Notes: heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: Big Three financial literacy score (0–3). Coefficients on age, age² and the four labour-status dummies are estimated but not reported.

Table 4 in the main text reports the 2SLS estimates alongside the corresponding OLS estimates for the same sample. The 2SLS coefficient on financial literacy is positive and statistically significant at the 1% level for both outcomes. It is also substantially larger than the OLS coefficient. For the holdings of investment assets, the 2SLS estimate (0.319) is around seven times the OLS estimate (0.047). For any investment product, the 2SLS estimate (0.230) is around five times the OLS counterpart (0.044). The Wu-Hausman test

rejects the exogeneity of financial literacy in both cases, which suggests that OLS is biased and supports the use of the instrumental-variable approach[3].

The 2SLS estimates look very large next to the OLS estimates, and it is worth explaining in plain terms why, because the size is mostly a matter of arithmetic rather than economics. A 2SLS coefficient is simply one number divided by another: the effect of the instrument on participation, divided by the effect of the instrument on measured literacy. Both building blocks are modest here. Adults who grew up in a home with more books participate 1.9 percentage points more in investment assets per step of the books scale, and score 0.06 points more on the three-question literacy test. Dividing the first number by the second gives 0.32. The result therefore does not rest on an implausibly strong link between childhood books and adult literacy; it rests on two modest, well-measured relationships.

We then stress-tested the result in five ways, summarised in Table A5. First, we used a testing method (Anderson-Rubin) that remains valid even when the instrument is weak: the effect on investment assets is still clearly different from zero. Second, we asked whether books simply stand in for a well-off or educated family: adding the occupation of the respondent's mother and of the respondent's father to the controls leaves the estimate unchanged at 0.32, which is hard to square with that story. Third, we recoded the instrument in different ways and obtained the same answer. Fourth, we used a completely different instrument, whether parents explained financial matters to the respondent as a child, and obtained an effect of the same size. Fifth, we allowed the instrument to cheat: even if books were permitted to affect participation directly, by as much as half of the total effect we measure, the effect of literacy on investment assets would remain positive and statistically significant.

Table A5. Robustness of the instrumental-variable estimates for Spain

	Investment assets	Any investment product
Baseline 2SLS (books scale 1-5)	0.324*** *(0.083)*	0.223*** *(0.085)*
Anderson-Rubin 95% confidence set	[0.185, 0.530]	[0.070, 0.420]
Reduced form: participation on instrument	0.019*** *(0.004)*	0.013*** *(0.005)*

[3] The Wu-Hausman test assesses whether the OLS estimates are statistically different from the instrumental-variable (2SLS) estimates. Rejection of the null hypothesis suggests that financial literacy should be treated as endogenous, meaning that OLS estimates are likely to be biased.

	Investment assets	Any investment product
Binary instrument (book-rich household)	0.339*** *(0.111)*	0.159 *(0.104)*
Instrument: category indicators (Sargan p-value)	0.311*** *(0.081)*, p = 0.050	0.220*** *(0.083)*, p = 0.014
Adding parental occupation controls	0.321*** *(0.119)*	0.208 (0.121)*
Alternative instrument: parents explained financial matters	0.372***(0.179)*	0.346 (0.192)*
Conley bound: direct effect up to 0.01 (95% CI)	[0.016, 0.299]	[−0.097, 0.209]

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own estimation using population sampling weights, with the full set of controls of column (3) of Table A1 and Table A2.

Notes: Heteroskedasticity-robust standard errors. N = 7 711. *** p<0.01, ** p<0.05, * p<0.1. Minor differences with respect to Table 4 reflect the treatment of the five imputed income completions. The Conley bound reports the 2SLS confidence interval when the instrument is allowed a direct effect on participation of up to one percentage point per category of the books scale.

Why, then, is the causal estimate around seven times the OLS one? Two familiar reasons push in this direction, although neither can be verified directly and they need not be the whole story. The first is that a three-question test measures financial literacy with a lot of noise, and noise mechanically drags the OLS coefficient towards zero: given the reliability of the score in the ECF (around 0.30), the noise-corrected coefficient would already be close to 0.15, half-way to the 2SLS estimate before any further argument is made. The second is that 2SLS measures the effect for the specific group whose adult literacy was shaped by their childhood environment, a group for whom literacy plausibly matters more than for the average adult.

A third possibility, which cannot be excluded, is that part of the gap reflects a residual direct effect of the instrument on participation; the Conley bounds in Table A5 show that the result survives a direct effect of up to half of the reduced-form relationship, not that it would survive a larger one. The reliability correction should also be read with care: Cronbach's alpha understates the reliability of a three-item scale designed to capture distinct concepts, so the corrected coefficient of around 0.15 is an upper bound on what classical measurement error alone can explain. Similar OLS-to-2SLS ratios are found in the reference studies for the Netherlands (Van Rooij, Lusardi and Alessie 2011) and Germany (Bucher-Koenen and Lusardi 2011). The honest limits of the exercise are also visible in

Table A5: the result for the broad outcome is less solid than for investment assets, and different codings of the instrument point to somewhat different effect sizes, so the estimates should be read as the effect for the affected group rather than as a universal number. Across the reported checks, the investment-asset estimate remains positive. A causal interpretation still depends on the identifying assumptions; the estimated direction is more robust than its exact size.

We also explored alternative instruments available in the ECF, including whether parents discussed financial matters with the respondent during childhood and whether the respondent received financial education at school. The qualitative conclusion remains the same when these instruments are used separately: the estimated effect of financial literacy is positive and statistically significant. Yet, when the instruments are combined, overidentification tests reject their joint validity, with school-based financial education appearing to be the likely source of concern[4].

This is informative for policy. School-based financial education may influence market participation not only by improving measured financial literacy, but also by increasing awareness of financial products or shaping attitudes towards investment. For this reason, it is not ideal as an instrument, but it remains highly relevant as a potential policy lever. We retain books at age 10 as the preferred instrument because it is strongly related to adult financial literacy, predetermined with respect to adult investment choices, and conceptually the most defensible.

Finally, Table A6 repeats the estimation with the ECF's self-assessment of financial knowledge, the measure that the Dutch survey also collects and the basis for the like-for-like comparison in Section 3.6. Entered alone with the full set of controls, each point on the five-point scale is associated with 5.2 percentage points more participation in investment assets and 4.9 in any investment product. Entered together with the Big Three score, both measures keep most of their size and their significance, as in the Dutch Table 8: objective and self-assessed knowledge are related, but each carries information the other does not.

[4] The Sargan and Basmann tests assess whether the instruments used in the 2SLS estimation appear to affect the outcome only through the endogenous variable, in this case financial literacy. Rejection of the test suggests that at least one instrument may influence market participation through additional channels, violating the exclusion restriction.

Table A6. Self-assessed financial knowledge and participation, Spain

	Investment assets		Any investment product	
	(1)	(2)	(3)	(4)
Self-assessed knowledge (1–5)	0.052***	0.045***	0.049***	0.043***
	(0.005)	*(0.005)*	*(0.006)*	*(0.006)*
Financial literacy score (0–3)	—	0.040***	—	0.037***
		(0.005)		*(0.006)*
Demographics, labour, income, housing	Yes	Yes	Yes	Yes
Observations	7 759	7 759	7 759	7 759
R^2	0.175	0.182	0.235	0.240

Source: Survey of Financial Competences (ECF) 2021, Banco de España; own estimation using population sampling weights.

Notes: LPM regressions with the full set of controls as in column (3) of Table A1 and Table A2. Heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Self-assessed knowledge is the answer to 'How would you rate your general knowledge of financial matters?' on a five-point scale from very low to very high; five respondents who did not answer are excluded.

ANNEX B. FULL ECONOMETRIC TABLES: THE NETHERLANDS

This annex contains the full Dutch ordinary least squares (OLS) results and the instrumental-variable diagnostics discussed together in Section 3.5, along with the specification details and checks on sample composition.

We estimate the same linear probability model (LPM) as for Spain, with the same sequence of specifications. As shown in Table B1, column (1) reports the raw relationship; column (2) adds age, age squared, gender and educational attainment; column (3) adds labour status, log household gross income and the two housing tenure indicators; and column (4) replaces the linear self-assessment scale with an indicator for reporting to be knowledgeable or very knowledgeable. Models are estimated with Centerdata household weights and heteroskedasticity-robust standard errors. Two outcomes are used: investment assets, and the broad measure including voluntary pension products, which is the closest Dutch counterpart of the Spanish 'any investment product' outcome.

One caveat concerns sample size: because household income is only available for respondents whose household members reported their incomes, the estimation sample falls from 2 287 in columns (1) and (2) to 1 718 in columns (3) and (4). The literacy coefficient is not an artefact of this change in composition: estimating the column (2) specification on the restricted sample yields 0.070 (0.014).

Housing tenure is taken from the general household file, which records the type of accommodation of every panel member. The accommodation questionnaire, which is completed by one person per household, in most cases its head (1 444 of its 1 576 respondents), agrees with that indicator in 97.9% of the cases in which both are observed, but using it directly would drop partners and other adult members of the same household. Restricting the sample to its respondents reduces the estimation sample to 1 165 and leaves the literacy coefficient unchanged: 0.065 (0.017) for investment assets and 0.068 (0.019) for the broad measure.

Table B1. Financial knowledge and the probability of holding investment assets, the Netherlands

	(1)	(2)	(3)	(4)
Self-assessed knowledge (1-4)	0.100***	0.075***	0.065***	—
	(0.013)	*(0.012)*	*(0.014)*	
Knowledgeable or very knowledgeable (1/0)	—	—	—	0.094***
				(0.022)
Female	—	−0.110***	−0.116***	−0.116***
		(0.018)	*(0.021)*	*(0.021)*
Upper secondary education	—	0.071***	0.080***	0.082***
		(0.021)	*(0.026)*	*(0.026)*
Tertiary education	—	0.182***	0.181***	0.184***
		(0.022)	*(0.027)*	*(0.027)*
Log household income	—	—	0.038***	0.039***
			(0.011)	*(0.011)*
Owns main residence	—	—	0.028	0.029
			(0.024)	*(0.024)*
Owns additional property	—	—	0.085	0.085
			(0.057)	*(0.057)*
Age and age²	No	Yes	Yes	Yes
Labour status (5 categories)	No	No	Yes	Yes
Observations	2 287	2 287	1 718	1 718
R^2	0.041	0.100	0.113	0.111

Source: DNB Household Survey (DHS) 2022, Centerdata; own estimation using Centerdata household weights.

Notes: heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: indicator equal to one if the respondent holds mutual funds or listed shares. Baseline rate in the sample: 17.7%. Coefficients on age, age² and the four labour-status dummies are estimated but not reported.

Table B2 repeats the exercise for the broad outcome: holding any of investment funds, listed shares, bonds or voluntary pension-type products, against a baseline participation rate of 26.8%.

Table B2. Financial knowledge and the probability of holding any investment product, the Netherlands

	(1)	(2)	(3)	(4)
Self-assessed knowledge (1-4)	0.120***	0.091***	0.076***	—
	(0.014)	*(0.014)*	*(0.016)*	
Knowledgeable or very knowledgeable (1/0)	—	—	—	0.106***
				(0.025)
Female	—	−0.121***	−0.117***	−0.118***
		(0.021)	*(0.025)*	*(0.025)*
Upper secondary education	—	0.059**	0.064**	0.066**
		(0.026)	*(0.032)*	*(0.032)*
Tertiary education	—	0.198***	0.183***	0.187***
		(0.027)	*(0.033)*	*(0.032)*
Log household income	—	—	0.023*	0.024*
			(0.013)	*(0.013)*
Owns main residence	—	—	0.074***	0.075***
			(0.027)	*(0.027)*
Owns additional property	—	—	0.095	0.095
			(0.061)	*(0.061)*
Age and age²	No	Yes	Yes	Yes
Labour status (5 categories)	No	No	Yes	Yes
Observations	2 287	2 287	1 718	1 718
R^2	0.043	0.110	0.119	0.116

Source: DNB Household Survey (DHS) 2022, Centerdata; own estimation using Centerdata household weights.

Notes: heteroskedasticity-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: indicator equal to one if the respondent holds mutual funds, listed shares, bonds, single-premium annuity policies or savings/endowment insurance policies. Baseline rate in the sample: 26.8%. Coefficients on age, age² and the four labour-status dummies are estimated but not reported.

The estimates in Table B2 show the same pattern as for investment assets, at a lower intensity relative to the baseline rate. Without controls, each additional point on the self-assessment scale is associated with 12.0 percentage points more participation. With the

full set of controls, the association stands at 7.6 percentage points, against 6.5 for investment assets, and the dummy specification in column (4) yields 10.6 points. Moving across the full range of the scale is associated with around 23 percentage points more participation on the 26.8% baseline. Relative to the baseline rates, this mirrors the Spanish finding that the literacy gradient is sharper for equity-like products than for the broader set of investment products. The control variables also behave differently in one respect. Housing wealth matters more for the broad measure: owning the main residence is associated with 7 percentage points more participation and additional property with 10 (the latter not significant), consistent with the role of voluntary pension and insurance products as vehicles of long-horizon household saving. The tertiary education gradient is practically the same as in Table B1 (18.3 against 18.1 percentage points).

Two further checks parallel those reported for Spain. Entering self-assessed knowledge as three indicators rather than linearly gives, relative to adults who consider themselves not knowledgeable, 5.9, 13.8 and 16.7 percentage points more participation in investment assets for the three higher categories, steps that a Wald test cannot distinguish from equal ones ($p = 0.74$), so the linear specification is a fair summary of the Dutch gradient. For numeracy, by contrast, the association is concentrated at the top: adults who answer all four items correctly are 6.7 points (standard error 2.6) more likely to hold investment assets than the rest, while the lower scores do not differ from one another, which is why the linear numeracy score in Table 8 is only marginally significant. Probit and logit average marginal effects are close to the LPM coefficients (0.059 and 0.058, against 0.065 for self-assessed knowledge in the investment-asset specification).

The instrumental-variable attempt

The first-stage relationship has the expected sign: each additional category of parental budgeting instruction is associated with a 0.064-point increase in self-assessed financial knowledge ($t = 3.1$), after the full set of controls. However, the first-stage F-statistic is 9.4, just below the conventional threshold of 10, so the instrument is weak in this sample and the resulting 2SLS estimate is uninformative: −0.084, with a standard error of 0.166, more than twice the size of the OLS coefficient. Using the numeracy score as the endogenous variable produces an even weaker first stage. We therefore do not use this Dutch instrumental-variable estimate to draw causal conclusions. The Dutch evidence in this milestone accordingly remains associational; the case for a causal interpretation rests on the Spanish instrumental-variable results and on the prior instrumental-variable evidence for the Netherlands provided by Van Rooij, Lusardi and Alessie (2011) with a purpose-built literacy module. Should a future DHS wave field the Big Three or a richer set of socialisation questions, the full instrumental-variable replication could be revisited.

Robustness to the survey year: the 2024 wave

The 2024 wave of the DHS, the most recent available, was in the field between March and September 2024, two years after the wave used in the body of the report, and enables a check that the Dutch findings do not depend on the survey year. Applying the same construction to it gives 2 498 respondents aged 18 to 79 in 1 994 households. In 2024, 18.7% of Dutch adults held investment assets (13.7% mutual funds and 10.6% listed shares), 1.9% held bonds, 6.8% cryptocurrencies, 10.2% single-premium annuities and 3.5% savings or endowment insurance policies, and the broad measure stood at 26.4%. The corresponding figures for 2022 are 17.7%, 13.3%, 9.7%, 1.4%, 5.1%, 11.0%, 3.7% and 26.8%.

The one-point rise in direct participation between the two waves is within sampling error (standard error 1.4), and the difference with the Spanish rate of 19.8% narrows to one point (standard error 1.1, p = 0.35), so the conclusion that about one adult in five participates directly in both countries holds in both waves. Nor does the literacy gradient depend on the wave: with the full set of controls, each point of self-assessed knowledge is associated with 6.6 percentage points more participation in investment assets (standard error 1.3, N = 1 833) and 6.7 points more participation in the broad measure, against 6.5 and 7.6 in 2022, or 5.1 points per standard deviation against 4.9. The conditional gender gap is 9.6 points and the tertiary education gradient 15.9 points. Numeracy is more strongly associated with participation in 2024 than in 2022: 3.2 points per item (standard error 0.9) when entered jointly with self-assessed knowledge, against 1.6, and adults who answer all four items correctly are 7.6 points (standard error 2.7) more likely to hold investment assets than the rest. The instrument based on parental budgeting instruction is as weak in 2024 as in 2022 (first-stage F-statistic of 9.7).

A check with the Big Three: the 2018 risk and ambiguity questionnaire

The DHS itself has not fielded the Big Three since 2010. However, a questionnaire on risk and ambiguity attitudes run on the same panel in April and May 2018 (Kouwenberg and Peijnenburg 2018, distributed by Centerdata) did include them, with the standard wording and a ‘do not know’ option, together with six advanced questions. The questionnaire has 571 respondents, of whom 490 can be matched to the 2018 wave of the DHS and 423 have the full set of controls. It deliberately over-sampled investors: 55% of the matched respondents held funds, shares or bonds at the end of 2016, against 14% of adults in the 2018 wave. We therefore reweight the sample to the population share of investors, post-stratifying the 2018 household weights on the selection stratum, before estimating anything. So reweighted, 92% of respondents answer the interest question correctly, 90% the inflation question and 58% the diversification question; 54% answer

all three correctly (19% in Spain) and 34% give at least one ‘do not know’ answer. Participation in investment assets rises from about 1% among adults with fewer than two correct answers to 7% with two and 17% with three.

The conditional association is very close to the Spanish one: 4.9 percentage points per correct answer with the full set of controls (standard error 1.4; 4.5 if the reweighting uses holdings at the end of 2017 instead of the selection stratum), against 4.7 in Spain. It has the same convex shape (adults who answer all three questions correctly are 7.3 points more likely to hold investment assets than the rest, against 9.9 in Spain) and the same ordering of the three questions, diversification carrying the largest coefficient. The ‘do not know’ pattern by gender is also the Spanish one: 39% of women give at least one ‘do not know’ answer against 30% of men, and 47% of women answer all three questions correctly against 61% of men.

Given its size and design, the questionnaire provides a check rather than an estimate to be quoted on its own, but the check is reassuring: measured with the same instrument, the Dutch and Spanish literacy associations are close in this check.

ANNEX C. COUNTRY DOSSIERS

This annex contains the full country dossiers underlying the five-dimensional comparison in Section 5. Each dossier reviews, using an identical template, the public and the private measures in place or under development. Policy updates are dated to 9 September 2026; historical statistics refer to their stated years, and proposals are not treated as operational measures.

THE NETHERLANDS

Public measures

The Netherlands operates one of the most mature financial education ecosystems in Europe. Its centrepiece is the Money Wise Platform (Wijzer in geldzaken), an initiative of the Ministry of Finance whose programme office sits within the Ministry's Financial Markets Directorate. The platform brings together De Nederlandsche Bank (DNB), the Authority for the Financial Markets (AFM), the Nibud budgeting institute, the financial sector, academia, education providers and consumer organisations. Queen Máxima serves as honorary chair and lends particular visibility to initiatives aimed at vulnerable groups. Flagship activities include the annual Week van het geld (Money Week) in primary and secondary schools, the Pensioen3daagse focused on retirement awareness, and a substantial research programme. The DNB Household Survey has hosted dedicated financial literacy modules that underpin the international academic literature linking literacy to stock market participation. The Money Wise Platform provides non-commercial information. Separating education from product promotion is an important governance principle, but the sources reviewed do not establish a specific AFM rule governing all private involvement in schools (Money Wise n.d.; 2009).

On the investment side, the Netherlands does not yet operate a dedicated, tax-incentivised retail investment account of the Nordic type. The policy debate has instead been dominated by the reform of the Box 3 regime for taxing savings and investment income. Following Supreme Court rulings from December 2021 that found the notional return system incompatible with the European Convention on Human Rights, the House of Representatives approved the Actual Return in Box 3 Act (Wet werkelijk rendement box 3) on 12 February 2026. The new regime, intended to apply from 1 January 2028 subject to Senate approval and announced amendments, would tax actual returns, including unrealised annual value changes on liquid assets such as listed shares and funds, at a flat 36%, with an annual tax-free return of EUR 1 800 and unlimited loss carry-forward. Immovable property and qualifying start-up shares would be taxed on a realisation basis.

The reform is relevant to retail participation in two opposing ways: it removes the unfairness of taxing fictitious returns in poor market years, but critics argue that annual taxation of unrealised gains creates liquidity strains and a drag on long-term compounding. The Dutch response to the Commission's recommendation on savings and investment accounts (SIAs) will need to be read against this backdrop. These are design considerations rather than estimated participation effects; Denmark's Aktiesparekonto (ASK) also taxes unrealised annual gains, while Sweden taxes notional returns (Government of the Netherlands n.d.; Eerste Kamer n.d.; Skattestyrelsen 2026; Skatteverket 2026).

Private measures

Private and semi-private actors are structurally embedded in the Money Wise partnership model. Nibud, an independent foundation, produces the budgeting norms and competence frameworks ('Goed omgaan met geld') used throughout Dutch financial education. Industry bodies such as the Dutch Banking Association contribute guest lessons and classroom materials during Money Week as part of the partnership's educational activities. The retail investor association VEB (Vereniging van Effectenbezitters) provides investor education and advocacy, while the Dutch market was an early European home of low-cost execution-only brokerage, which materially lowered the cost barrier to equity ownership for households. Dutch academic institutions, frequently supported by the Money Wise Platform, maintain an unusually strong evaluation culture, with randomised and survey-based studies of school programmes feeding back into programme design.

SWEDEN

Public measures

Sweden is the reference case for mobilising household savings through a simple tax wrapper. The Investeringssparkonto (ISK), introduced in 2012, replaces capital gains and dividend taxation with an annual tax on a notional return calculated from the account's capital base. The provider calculates and reports the notional income for inclusion in the tax return; this is not the same as withholding and paying the investor's tax. Uptake is substantial: the Swedish Investment Fund Association reports about 3.8 million unique holders in 2023 and an estimated capital base of SEK 1 665 billion. Unique holders, account numbers and estimates derived from the tax base are different measures and should not be combined as an investor count.

The current government has doubled down on the model: from 2025 the first SEK 150 000 of combined ISK, endowment insurance (*kapitalförsäkring*) and pan-European Personal Pension Product (PEPP) capital is exempt from the standard tax. From

the 2026 income year, the tax-free threshold doubles to SEK 300 000 per person, explicitly to strengthen incentives for broad-based share and fund saving. For 2026 the standard tax above the threshold is 1.065% of the capital base, calculated as 30% of a notional return of 3.55% (the 2.55% government borrowing rate plus one percentage point). The rate varies by year; above the exemption, tax can be payable even when actual investment returns are negative (Skatteverket 2026; Fondbolagens förening 2024).

On the literacy side, Finansinspektionen (the Swedish Financial Supervisory Authority) has held a government mandate for financial education since 2008. It coordinates the national network Gilla din ekonomi, which pools public authorities (including the Pensions Agency, the Consumer Agency and the Enforcement Authority), trade unions and industry to deliver train-the-trainer courses, workplace education and materials for adults, complementing the school curriculum's treatment of personal finance. The design of the premium pension system, in which people allocate some of their public pension to funds, also gives successive cohorts funded pension exposure, including through a default option rather than necessarily an active fund choice. That is not itself evidence of improved financial knowledge.

Private measures

Private infrastructure is unusually deep. The shareholders' association Aktiespararna, one of the largest of its kind in Europe, runs courses, local clubs and the youth organisation Unga Aktiesparare. The Swedish Investment Fund Association (Fondbolagens förening) operates the consumer information service Fondkollen and publishes the statistics that document Sweden's world-leading household fund ownership. The school programme Ung Privatekonomi, funded by the financial industry, takes personal finance and investing into upper secondary classrooms. The online platforms Avanza and Nordnet, which pioneered commission-light investing and host a large share of ISK accounts, publish free educational content, podcasts and 'shareville'-style communities aimed in part at younger savers. The combination of a simple wrapper, automatic tax administration and this private educational fabric is a plausible contributor to Sweden's retail investment environment, but its causal contribution is not isolated by this review.

DENMARK

Public measures

Denmark's flagship instrument is the Aktiesparekonto (ASK), a share savings account introduced on 1 January 2019 with the explicit objective of drawing more Danes into equity investment. Returns within the ASK are taxed at a flat 17% annually on a mark-to-market basis, against 27% to 42% for share income in an ordinary account, with the provider calculating, deducting and reporting the tax automatically. Losses carry forward

within the account. The deposit ceiling has been raised repeatedly, from an initial DKK 50 000 to DKK 174 200 in 2026, signalling a continuing policy commitment. Eligible assets comprise listed shares and equity-based funds and ETFs on the tax authority's positive list. The Commission's SIA blueprint work has explicitly cited the Danish ASK experience as a template for simple accounts with capped contributions and provider-administered taxation (Skattestyrelsen 2026).

The Money and Pension Panel (Penge- og Pensionspanelet), established by the Danish Parliament in 2007, was abolished on 1 July 2020. The Råd til Penge consumer-information website was transferred to Finanstilsynet, the Danish Financial Supervisory Authority, which has a statutory, public role in providing consumer information. Financial concepts are integrated into school mathematics and social studies curricula, and Finanstilsynet and the central bank contribute consumer-facing information on investment products and risks (Folketinget 2020).

Private measures

The banking sector association Finance Denmark (Finans Danmark) organises the annual Danish Money Week (Pengeuge) in schools, aligned with the OECD's Global Money Week, mobilising bank employees as volunteer teachers with dedicated teaching materials. The Danish Shareholders' Association (Dansk Aktionærforening) provides investor courses and magazines for retail investors. Platforms such as Nordnet and Saxo Bank, together with the *månedsopsparing* monthly savings schemes of incumbent banks, have automated both investing and tax reporting, reducing some practical barriers to first-time equity ownership, without eliminating affordability, risk, trust or knowledge constraints.

GERMANY

Public measures

Germany presents a paradox: despite being a G7 economy with strong institutions, no formally adopted national strategy for financial literacy was identified in the sources reviewed to 9 September 2026. Steps towards one have been taken: in 2023, the Federal Ministry of Finance and the Federal Ministry of Education and Research jointly launched the Initiative Finanzielle Bildung, commissioning the OECD to map the landscape. In September 2024, the OECD published a formal proposal for a national strategy ('Finanzkompetenz in Deutschland stärken'). The proposal should not be treated as an adopted strategy; provision continues through a dense but fragmented patchwork of Länder curricula, Bundesbank school materials and museum programmes, and BaFin consumer information (OECD 2024).

A major, proposed public measure is the Frühstart-Rente (early-start pension), for which the federal Cabinet approved a government draft on 12 August 2026; this is not yet an operational scheme. Under the plans, the state will pay EUR 10 per month into a privately managed, capital-market-based retirement depot for eligible children resident in Germany from ages 6 to 18, subject to a phased introduction and a maximum of EUR 1 440 per child, with returns accruing tax-free until retirement and the possibility of private top-ups. Introduction is to be phased by birth cohort: the August draft envisages a start on 1 January 2027 for children born in 2020 and 2021, with retroactive contributions from 1 January 2026 for the 2020 cohort; from 2028, each new cohort turning age 6 would be added. Where no individual account is opened, a collective investment arrangement is proposed. Capital would normally remain locked until at least age 65, so this is a retirement product rather than a liquid SIA. The scheme's explicit twin objectives are to build funded retirement capital and to foster financial education and acceptance of securities investment across generations.

The German Council of Economic Experts has proposed a Swedish-style default fund and an independent fund-selection authority for its implementation. The broader private pension reform, including the Altersvorsorgedepot, is a separate enacted measure, for which legislation entered into force at the end of May 2026, with new products due from January 2027. The childhood scheme's educational benefits remain an objective to be evaluated, not an established result (Bundesministerium der Finanzen 2026; Bundesregierung 2026; Sachverständigenrat 2025).

Private measures

Private initiatives have to a large extent filled the strategic vacuum Sparkassen's Planspiel Börse simulation of the stock market has introduced generations of pupils to securities markets. Bank foundations, the Deutsches Aktieninstitut (which publishes the annual shareholder numbers that track Germany's slow equity-culture revival) and consumer testers such as Stiftung Warentest's Finanztest provide education and independent product assessment. The most striking market development is the boom in ETF savings plans distributed by neobrokers such as Trade Republic and Scalable Capital and by direct banks. Monthly plans starting from very small amounts have expanded access to equity investment, including for younger Germans. Diversification depends on the underlying fund rather than the ETF label alone, with a lively ecosystem of personal finance media (Finanztip and others) supporting this shift. Insurers and the GDV industry association have publicly backed the Frühstart-Rente as a financial education instrument as much as a savings one.

FRANCE

Public measures

France adopted its national economic, budgetary and financial education strategy (EDUCFI) in 2016, with the Banque de France designated as the national operator. The strategy's school arm has been progressively universalised: the 'passeport EDUCFI', a financial education module and certificate, is required for all pupils in the fourth year of *collège* as of September 2026 under the March 2026 instruction. The Banque de France runs the Mes questions d'argent portal, the Cité de l'Économie museum and large-scale teacher training, alongside annual participation in Global Money Week. The Autorité des marchés financiers (AMF) complements this with investor-facing education, an annual retail investor barometer, fraud warnings and joint campaigns with the Autorité de contrôle prudentiel et de résolution (ACPR) against investment scams (Ministère de l'Éducation nationale 2026).

On the participation side, France operates a family of long-standing tax wrappers, most prominently the Plan d'Épargne en Actions (PEA), which exempts gains from income tax after five years while social levies remain payable, and workplace employee share-ownership schemes reinforced by the 2023 value-sharing law. The newest instrument is the Plan d'Épargne Avenir Climat (PEAC), created by the October 2023 Green Industry Law and available since 1 July 2024. Reserved for residents under 21 and capped at EUR 22 950 in payments, it invests in funds carrying the ISR (socially responsible investment) or Greenfin labels and European green bonds. It applies default life-cycle management (*gestion pilotée*) with progressive de-risking, and offers full exemption of gains from income tax and social levies. Withdrawals normally require both age 18 and at least five years since opening; the plan closes at age 30 and the capital is not guaranteed. These constraints distinguish it from a general-purpose investment account. The legislation embeds an explicit financial education dimension, requiring regular, clear and pedagogical information for young holders on performance, fees and environmental impact.

Commercialisation began cautiously (the BPCE banking group was the first mover in 2025). All the same, the PEAC is conceptually significant as a state-designed youth savings plan combining sustainability and a financial information duty, with habit formation as an objective rather than an evaluated result. The Green Industry Law also channels retail savings held in life insurance and retirement plans towards unlisted and transition assets through revised default allocations (Service-Public n.d.; Ministry of Economy, France n.d.).

Private measures

The industry-supported Institut pour l'Éducation Financière du Public runs La finance pour tous, France's leading independent website on personal finance education, with teacher resources and media partnerships. The French Banking Federation's 'J'invite un banquier dans ma classe' programme brings bank volunteers into primary schools, while insurers and asset managers fund educational content on long-term investing. The growth of low-cost brokers and fractional investment apps has widened access, prompting the AMF to pair its educational output with active supervision of finfluencers and social media investment promotion.

ITALY

Public measures

Italy institutionalised financial education in 2017 with the creation of the Comitato Edufin, the national committee for the programming and coordination of financial education activities, chaired currently by Professor Donato Masciandaro. It brings together the Ministry of Economy and Finance, the education and enterprise ministries, the Banca d'Italia, Consob, Ivass, Covip, the financial advisers' body OCF and consumer representatives. Its flagship is the Mese dell'Educazione Finanziaria, a full month of free events each November (the eighth edition ran from 1 to 30 November 2025 under the slogan '*Educazione finanziaria: oggi per il tuo domani*'). This incorporates the pension education week, the insurance education day and the financial legality day organised with the Guardia di Finanza, and is linked to IOSCO's World Investor Week.

A structural milestone was Law No. 21 of 5 March 2024 (the 'legge capitali' capital markets law), which embedded financial education into the civic education curriculum in schools, giving classroom coverage a statutory basis and strengthening the committee's role. The Banca d'Italia and Consob also maintain extensive programmes (teacher training, museum and outreach activities). The Comitato Edufin's public website replaced the Quello che conta portal in April 2025.

Consob's surveys continue to document that more than half of Italians self-assess limited financial knowledge, sustaining political attention. The committee's December 2025 survey found financial education within civic education in 71.3% of surveyed secondary schools, showing that statutory coverage and reported classroom implementation are distinct (Italy 2024; Comitato Edufin 2025).

On participation, Italy's main wrapper is the Piano Individuale di Risparmio (PIR), introduced in 2017. Within it, returns are exempt from capital income tax if holdings are kept for at least five years, subject to annual and lifetime contribution caps and to

portfolio requirements. The latter stipulate allocations to qualifying Italian firms or EU/EEA firms with an Italian permanent establishment, with further allocations outside the main equity indices. This is not an unrestricted EU-wide investment account.

Alongside the PIR, the Treasury has been remarkably successful in re-engaging households with securities through dedicated retail sovereign issues, the BTP Italia and, since 2023, the BTP Valore series, which offer loyalty premia for holding to maturity and have raised tens of billions of euro directly from retail investors. Still, gross subscription totals do not establish the number of new households opening securities accounts (Agenzia delle Entrate 2021, 2022; Ministero dell'Economia e delle Finanze n.d.).

Private measures

ABI, a banking association, runs the foundation FEduF, which coordinates school programmes across the country. Intesa Sanpaolo's Museo del Risparmio in Turin is one of Europe's few museums dedicated to saving. Assogestioni, Borsa Italiana and the financial advisory networks run investor academies and the annual Salone del Risparmio. Fintech brokers and the digital arms of incumbent banks have expanded plan-based fund and ETF investing. Industry participation in the November education month has become a reputational fixture, with hundreds of privately organised seminars, laboratories and school events included in the official calendar each year.

SPAIN

Public measures

Spain's Plan de Educación Financiera (PEF), running since 2008, is jointly promoted by the National Securities Market Commission (CNMV), the Banco de España and the Ministry of Economy, Trade and Business. It operates through the Finanzas para Todos portal, a wide collaborator network, a schools programme with annual awards, and the Día de la Educación Financiera each October. The 2022-25 plan placed particular emphasis on digitalisation, fraud and the new cohort of retail investors that emerged during the pandemic. Drafting a new plan setting objectives for 2026-29 is a commitment in the CNMV's February 2026 Activity Plan, rather than evidence of its completed implementation.

Financial competences have also gained ground in the school curriculum under the LOMLOE education framework. Coverage is not uniform, however. The Banco de España's 2026 evaluation of its financial education activity reviewed the curriculum and found that financial content is compulsory and cross-curricular in primary and lower secondary education, while more advanced content is confined to optional subjects such

as Economics and Entrepreneurship, whose availability depends on each school's offer and on regional curricula (Banco de España 2026).

Institutionally, in March 2025 the CNMV created a dedicated Department for Retail Investor Protection, Financial Education and Financial Fraud Prevention, reporting directly to its vice-presidency. It consolidates investor assistance, education and anti-fraud functions, including coordination of the multi-institution Plan de Acción contra el Fraude Financiero and supervision of finfluencers' compliance with investment recommendation rules (CNMV 2022, 2026).

On participation, the current focal point is the follow-up to the OECD's December 2024 review of Spanish capital markets. A CNMV-convened working group of firms, associations and public bodies, reporting in early 2026, identified six priorities among the OECD's 32 recommendations. Foremost is a proposal for the creation of an individual savings and investment account (*cuenta de ahorro e inversión*) in line with the Commission's SIA recommendation. The Ministry's public consultation on the account and the separate Finance Europe label closed on 30 January 2026; a consultation and the working group's support do not establish an operational account or enacted tax relief. The CNMV's chair has publicly urged the Government to keep the account's conditions simple and to be ambitious on tax incentives, acknowledging fiscal constraints but stressing that incentives will be decisive for mobilising retail savers. The remaining priorities include facilitating SME access to markets, enlarging institutional investment through pension vehicles, and reinforcing financial education through targeted, evaluated campaigns and a stronger presence in the school system.

Spain's existing pension and insurance saving arrangements remain relevant background. For qualifying investment funds, the *traspaso* regime defers rather than exempts gains when statutory conditions are met. It generally excludes ETFs and does not apply when redemption proceeds are put at the investor's disposal. Record retail demand for Treasury bills in 2023-24 demonstrated households' responsiveness to accessible instruments (CNMV 2026; Ministry of Economy, Spain 2026; Agencia Tributaria 2025).

Private measures

Private activity is channelled substantially through the PEF collaborator network: the banking associations AEB, CECA and UNACC co-fund the Funcas Educa programme, underwriting the financial education projects of foundations and banks; large institutions (CaixaBank, Santander, BBVA and others) run their own school, senior and vulnerable-customer programmes; and Bolsas y Mercados Españoles (BME), through Instituto BME, offers retail investor courses. Employer and consumer bodies, fintech associations and initiatives such as Junior Achievement's 'Tus finanzas, tu futuro' with the AEB extend

coverage. Spanish neobrokers and the digital platforms of incumbents have cut minimum investment sizes and fees, while asset management associations (Inverco) contribute research and pension-awareness campaigns.

PORTUGAL

Public measures

Portugal's Plano Nacional de Formação Financeira (PNFF), launched in 2011 by the National Council of Financial Supervisors (Banco de Portugal, the securities market commission CMVM and the insurance and pension funds supervisor ASF) under the Todos Contam brand, is among the longest-running national strategies in the EU. Its instruments include the Todos Contam portal and e-learning platform as well as the Referencial de Educação Financeira, a competence framework spanning preschool to adult education. Other initiatives include the Cadernos de Educação Financeira classroom workbooks, the annual Todos Contam competition for schools (72 school entries involving more than 23 000 pupils in its fourteenth edition) and the Semana da Formação Financeira, which from 2025 has been celebrated jointly with the OECD's Global Money Week.

The 2021-25 plan prioritised digital financial resilience and sustainable finance; the PNFF 2026-30 was presented on 18 March 2026. Separately, a 2025 citizenship strategy made financial literacy compulsory across school years, although the existence of the broader competence framework should not be read as a preschool teaching obligation.

Notably, in October 2025 the supervisors launched an EU-funded Technical Support Instrument project with the Florence School of Banking and Finance. It seeks to rigorously evaluate the effectiveness of Portuguese financial literacy initiatives and to build an impact evaluation methodology, explicitly framed as a contribution to the Savings and Investments Union and as a model for other Member States. This is an evaluation-capacity project, not evidence of measured programme effects (Conselho Nacional de Supervisores Financeiros 2026; Government of Portugal 2025; Florence School of Banking and Finance 2025).

On the participation side, the CMVM combines investor education, complaint handling and increasingly active engagement with the retail investment agenda, including World Investor Week activities aimed at schools ('Investir através da internet: oportunidades e armadilhas') and support for university-level competitions. Household participation in capital markets remains modest by northern European standards, with retail savings historically channelled into state savings certificates (*certificados de aforro*), whose surge in 2023 documents strong demand for this product. These non-traded savings instruments should not be equated with brokerage-account opening or subsequent diversified investment. Connecting them to neutral education about other options is a

policy proposal, not an established transition effect or a verified objective of the PNFF (Conselho Nacional de Supervisores Financeiros 2026; IGCP n.d.).

Private measures

Private participation runs through the PNFF partnership model, which formally involves ministries, business associations, the banking association APB, consumer bodies, trade unions and universities. The CFA Society Portugal co-organises with the Banco de Portugal the university competition O Meu Futuro Financeiro, which drew more than 370 students in 2025. IAPMEI and Turismo de Portugal deliver financial capability training to SMEs under the PNFF umbrella, while personal finance platforms such as Doutor Finanças, together with banks' own literacy programmes, extend adult-facing content. Portuguese fintech brokers and the retail arms of incumbent banks have broadened low-cost access to funds and ETFs.

ROMANIA

Public measures

Romania combines one of the EU's lowest measured levels of financial literacy (ranking 35th out of 39 in the OECD/INFE 2023 survey, though improving between survey rounds) with some of its most innovative instruments for retail participation. A National Financial Education Strategy covering 2024-30 has been adopted and coordinated among the Ministry of Education, the National Bank of Romania (BNR), the Financial Supervisory Authority (ASF) and the Ministry of Finance. It emphasises digitalisation, fraud prevention and understanding of financial products. Financial education has also entered the school curriculum through social education classes. The BNR runs long-standing academic and school programmes, while the ASF, through the Institute of Financial Studies (ISF), operates targeted programmes. Among these are SmartFIN@ISF, the ASF Academic Lab and, with the Bucharest Stock Exchange (BVB) and the fund managers' association AAF, an Investment Academy preparing students for capital markets careers and participation (Government of Romania 2024; OECD 2022).

The standout participation measure is the Fidelis retail government bond programme, distributed through the BVB and partner banks since its relaunch in 2020. Fidelis issues offer tax-free interest, low minimum subscriptions (RON 5 000 or EUR 1 000), multiple maturities in lei and euro, and a distinctive social component of preferential tranches for blood donors. Retail demand has been substantial: 2024 alone raised a record RON 16.4 billion (around EUR 3.3 billion) from retail investors across six issues, and monthly issues continued through 2025 and 2026 with maturities extended to 10 years. Fidelis is exchange-listed, unlike the Tezaur programme distributed through Treasury

units and post offices. The issuance figures do not establish how many subscribers are unique first-time investors, or how many later buy other securities.

Complementary reforms implemented on OECD recommendation include the simplified capital gains regime for listed securities introduced in 2023, under which qualifying intermediaries withhold final income tax. From 1 January 2026 the rates increased from 1% to 3% for the longer holding-period category and from 3% to 6% for the shorter category, using the statutory 365-day distinction. The regime does not cover all brokers or eliminate every potential tax-filing obligation, and the review does not estimate its participation effect (Bucharest Stock Exchange 2024; Ministry of Finance, Romania n.d.; ANAF 2026).

Private measures

The BVB itself is an active financial educator, running investor education campaigns, school and university partnerships and the promotion work that accompanies each Fidelis window; brokerage houses such as BT Capital Partners, Tradeville and Goldring pair distribution with explanatory content. The Romanian Banking Association and member banks operate platforms and school volunteering programmes, insurers and pension managers (supported by their national associations, UNSAR and APAPR) run awareness campaigns around the private pension pillars, and the ISF's partnerships give private financial institutions a structured channel into universities. Fintech adoption, led by app-based brokers and neobanks, is expanding the young retail segment from a low base.

IRELAND

Public measures

Ireland moved decisively in 2025. On 20 February 2025, the finance minister published Ireland's first National Financial Literacy Strategy, a five-year framework (2025-29) developed with the Competition and Consumer Protection Commission and the Central Bank of Ireland. It is based on a 2024 mapping report which found that only 57% of adults met the minimum OECD financial literacy level and that some 110 initiatives were operating without a coherent framework. The strategy is organised around empowering consumers, strengthening coordination through a dedicated implementation structure and website (financialliteracy.ie), and 'catalysing change' in under-addressed topics that explicitly include retail investment, digital financial literacy and debt management, with annual action plans. The 2025 annual review and the 2026-27 action plan were published in mid-2026. In March 2026, the minister launched a call for expressions of interest for a national financial literacy ambassador, who will liaise with the new EU ambassadors' network. Ireland has framed its literacy agenda openly as national delivery of the EU

Financial Literacy Strategy, in the context of its July-December 2026 EU Council presidency (Government of Ireland 2025, 2026).

On participation, the reference document is the Funds Sector 2030 report of October 2024. It concluded that Ireland, despite hosting Europe's second-largest funds industry, has weak domestic retail participation, with roughly EUR 178 billion of household savings in low-yield deposits and state savings products. Concrete follow-up has begun: the 2025 finance legislation cut the exit tax on Irish and equivalent investment funds and life policies from 41% to 38% from January 2026. A roadmap promised in the 2026 budget was published on 31 August 2026 and proposes a new investment account from 2027, with legislation intended for Finance Bill 2026 and rates and thresholds to be settled through the 2027 budget. It is a published policy commitment, not an account already available to savers.

Wider reform of the eight-year deemed-disposal regime remains under consideration and should not be treated as adopted. Meanwhile, the central bank has adjusted domestic ETF rules, and an annual Savings and Investment Forum (a Funds 2030 recommendation) convened for the first time in 2026. A long-delayed pension auto-enrolment scheme, My Future Fund, launched on 1 January 2026. It extends funded pension saving among eligible workers. Yet, enrolment should be distinguished from voluntary direct retail investment and from projections of eventual coverage (Department of Finance, Ireland 2024, 2026; Revenue, Ireland 2026; Department of Social Protection, Ireland 2026).

Private measures

Industry bodies have aligned themselves visibly with the national strategy. Irish Funds runs a Transition Year Financial Literacy Programme that reached more than 800 students across 10 counties in the last academic year and has committed to scale it; the banks, insurers and credit unions operate school and community programmes; and the state-funded but community-delivered Money Advice and Budgeting Service provides the debt and budgeting arm of the ecosystem. Retail brokers, life companies and the funds industry have been prominent advocates of exit tax reform, arguing that tax complexity, rather than appetite, is the binding constraint on Irish retail investment. In the meantime, international platforms have expanded low-cost access for Irish savers.