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MOWEI

RESEARCH PAPER

# Financial education in Portugal

*How it compares, what people complain about, and what is missing*

On the OECD/INFE 2023 survey Portugal scores 63,4, slightly above the OECD-20 average of 62,7 [S242 p.88; A], but ranks 21st on knowledge [S242 p.91; A]. Outcomes are mixed rather than uniformly weak, and the evidence on what works points to small effects that fade.

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# About Mowei

Mowei is a free comparison platform for Portugal. It compares services that people pay for every month, among them energy, telecoms, insurance and credit, and it helps people find the social support schemes they may be entitled to. It is developed by LusoAnalytica, Lda, a Portuguese technology company. The team is small and works from Portugal, for Portugal.

## What Mowei stands for

**Transparency.** The data behind every comparison come from public sources, and the ranking criteria are open and explained.

**Independence.** No provider influences the order of the results, which follows relevance to the user rather than commercial commission.

**Privacy.** Mowei collects the minimum data necessary, does not sell data, runs analytics without cookies and hosts data in the European Union.

**Free for the user.** Comparison will always be free for the people who use it.

## What Mowei wants to achieve

The mission is to help each person in Portugal make better financial decisions through transparent comparison, so that choosing an energy tariff, a telecoms package or an insurance policy is as simple as running a search, with no small print and no hidden influence. This research line extends that mission to public debate: it gives people in Portugal sourced, checkable figures about prices, pay and living conditions, so that arguments about them can start from evidence rather than from impressions.

## Independence and funding

This paper was produced by LusoAnalytica, Lda. No provider, partner or advertiser paid for it or influenced it. Today no provider pays Mowei; the order of the results and the trust score shown on the platform do not depend on payments.

## About this paper

Every figure in the text carries a numbered source and an evidence grade from A to E that says how the figure was checked: A, read at the official source in this run; B, an official statistic from Mowei's sourced facts database; C, an official page or an archived official document read by an agent; D, press or a law firm; E, a working paper, a search snippet or Mowei's own model-coded corpus (Appendix A explains the grades). Claims about groups of people are presented as hypotheses, with the data for and against them set out side by side. The paper was drafted with AI language models under a written protocol. A reviewer from a different AI model family then checked it against the sources, and the sources were re-read where they could be reached; the Methods appendix states this in full. Where a source could not be read, the paper says so and treats the gap as a gap, not as a finding.

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## Abstract

Portugal's financial literacy depends on how it is measured. On the OECD/INFE 2023 adult survey, Portugal scored 63,4, 13th of 39 countries and slightly above the OECD-20 average of 62,7 [S242 p.88; A]. Its knowledge score, however, ranked 21st [S242 p.91; A]. On the 2023 Flash Eurobarometer, 11 % of Portuguese adults reached a high literacy score, against 18 % in the EU27 [S337; B] [S25; C]. Fifteen-year-olds scored 494 in PISA 2022, not significantly different from the OECD average of 498 [S293; C], after 505,4 in 2018 [S251; A]. Outcomes are mixed rather than uniformly weak: arrears affect 5,2 % of people against 9,2 % in the EU27, and 29,2 % cannot face an unexpected expense, the same as the EU27 [S98, S99; A]. Yet the share who saved in the previous year fell from 68,3 % in 2015 to 53,9 % in 2023, and 44,1 % did not consider any alternative when they took their latest financial product [S242 p.32, p.51-52; A]. Complaints to the Banco de Portugal centre on deposits (32,1 %) and consumer credit (24,5 %) [S273 p.65; A]; deposit complaints rose 3,4 % to 7 238 in 2024 while the total fell 16,4 % [S273 p.65; A]. Insurance complaints centre on claims handling: 62,5 % of insurers' Non-Life complaints [S312; B]. Recurring needs that the sources we read do not show any body or product meeting in full include debt-counselling capacity, help after a scam, plain-language cost comparison and independent advice. Since 2011, four national plans for financial education have been adopted, but none has numeric targets or a euro budget, and their monitoring cannot measure impact [S254]–[S257], [S256 p.28-29; A]. The evidence on what works points to small effects that fade, and suggests combining education at the moment of decision with good defaults. We propose measures for each actor, with their mechanism, evidence, cost and risk. Mowei, the publisher, offers free comparison, calculators and a complaint guide at the moment of choice. These tools touch five of the eleven gaps, none in full; they give no advice, and their effect has not been measured (§10.3).

## Conflict of interest

Mowei, the publisher of this paper, runs comparison and education tools that are discussed in §10. Mowei states that, as of 6 November 2026, no provider, partner or advertiser pays it [S351; C]. Paid features exist in its code but are switched off. The authors have tried to state what Mowei cannot do with the same care as what it can do. Readers should weigh §10 with this interest in mind.

## Key findings

- Portugal's financial literacy depends on how it is measured: on the OECD/INFE 2023 adult survey it scored 63,4, 13th of 39 countries and slightly above the OECD-20 average of 62,7 [S242 p.88; A], but its knowledge score ranked 21st [S242 p.91; A], and on the 2023 Flash Eurobarometer 11 % of Portuguese adults reached a high literacy score, against 18 % in the EU27 [S337; B] [S25; C] (§4, Figures 2 and 4).
- Fifteen-year-olds scored 494 in PISA 2022, not significantly different from the OECD average of 498 [S293; C], after 505,4 in 2018 [S251; A] (Figure 3).
- Outcomes are mixed rather than uniformly weak: arrears affect 5,2 % of people against 9,2 % in the EU27, and 29,2 % cannot face an unexpected expense, the same as the EU27 [S98, S99; A]. Yet the share who saved in the previous year fell from 68,3 % in 2015 to 53,9 % in 2023, and 44,1 % did not consider any alternative when they took their latest financial product [S242 p.32, p.51-52; A] (Figure 5).
- Complaints to the Banco de Portugal centre on deposits (32,1 %) and consumer credit (24,5 %) [S273 p.65; A] (Figure 7); deposit complaints rose 3,4 % to 7 238 in 2024 while the total fell 16,4 % [S273 p.65; A]. Insurance complaints centre on claims handling: 62,5 % of insurers' Non-Life complaints [S312; B].
- Recurring needs that the sources we read do not show any body or product meeting in full include debt-counselling capacity, help after a scam, plain-language cost comparison and independent advice (Table 4).
- Since 2011, four national plans for financial education have been adopted, but none has numeric targets or a euro budget, and their monitoring cannot measure impact [S254]–[S257], [S256 p.28-29; A]. The evidence on what works points to small effects that fade, and suggests combining education at the moment of decision with good defaults.
- We propose measures for each actor, with their mechanism, evidence, cost and risk (Table 8). Mowei, the publisher, offers free comparison, calculators and a complaint guide at the moment of choice. These tools touch five of the eleven gaps, none in full; they give no advice, and their effect has not been measured (§10.3).

# Contents

**About Mowei** 2

**Abstract, conflict of interest and key findings** 3

**1. Introduction and research questions** 7

**2. Data, sources and method** 8

2.1 Archive scan and triage 8

2.2 What the triage model never saw 8

2.3 Verification labels 8

2.4 What was read at source 9

2.5 Complaint data and its biases 9

2.6 How the social corpus was counted 9

2.7 Number format and conflicts 9

2.8 AI assistance 10

**3. Since when: a timeline** 10

**4. How it shows: Portugal measured against other countries** 11

4.1 The national surveys (BdP/CNSF 2010, 2015, 2020, 2023) 11

4.2 OECD/INFE 2020 and 2023 12

4.3 PISA 2018 and 2022 13

4.4 Flash Eurobarometer 525 (2023) 14

4.5 S&P Global FinLit 2014 15

4.6 Outcomes 15

4.7 Where Portugal is above and where below 15

**5. What people complain about with money, and what is missing** 16

5.1 National ratios from the regulators 17

5.2 The social-media signal 19

5.3 What is missing 19

**6. Key evidence base: one chart rebuilt from the original counts** 20

**7. Current law and policy** 22

7.1 Portugal against six comparison countries 22

7.2 What works, from the meta-analyses 23

**8. Behavioural and field hypotheses** 24

**9. Projections: scenarios, not forecasts** 27

**10. Measures** 28

10.1 Nine measures 28

10.2 By actor 30

10.3 Where Mowei fits 30

**11. Limitations and open conflicts** 31

**References** 32

**Appendix A. Methods and evidence grades** 40

# List of figures

Figure 1. National financial literacy index and sub-scores, restated series, adults aged 16 and over, 2015–2023. 12

Figure 2. Portugal against the OECD-20 average on the OECD/INFE 2023 adult survey: overall score, knowledge, behaviour, attitudes and financial well-being (ages 18+). 13

Figure 3. PISA financial literacy, 15-year-olds: Portugal and the OECD average, 2018 and 2022, and low and top performers in 2022. 13

Figure 4. Flash Eurobarometer 525 (2023): share of adults with a high financial-literacy score, the values found for seven member states and the EU27. 14

Figure 5. Household outcomes, Portugal against the EU: gross saving rate, no emergency savings, inability to face an unexpected expense, arrears. 16

Figure 6. What deposit-account complaints to Banco de Portugal are about, 2024: share of deposit-account complaint matters. 18

Figure 7. Complaints to Banco de Portugal by product, share of complaints in BdP competence, 2023 and 2024. 21

# List of tables

Table 1. Timeline of financial education policy and measurement in Portugal, 2010–2026 11

Table 2. Where Portugal stands above, below or level with the comparator, by metric 15

Table 3. Complaints to Banco de Portugal by product: share of complaints in BdP competence, 2024, and the press figures for 2025 17

Table 4. Recurring needs that the sources we read do not show any body or product meeting in full (M1–M11) 19

Table 5. Complaints in BdP competence by product, counts and rate per unit, 2023 and 2024 [S273 p.65, Quadro IV.7.1; A] 21

Table 6. Complaints per unit by product, 2025 22

Table 7. Portugal against six comparison countries: mandatory status, hours, funding or scale, measured effect 22

Table 8. Nine measures, each with mechanism, evidence, cost, risk, sequence and actor 28

Table 9. Conflicts still open 31

# 1. Introduction and research questions

Financial education is easy to praise and hard to measure. In Portugal the measured picture is mixed. On the OECD/INFE 2023 survey the overall score of Portuguese adults is 63,4 [S242 p.88; A], which ranks 13th of 39 countries and sits above the OECD-20 average of 62,7 [S242 p.88; A]. The knowledge score alone is 60,7, below the OECD-20 average of 66,9, and ranks 21st [S242 p.91; A]. In Flash Eurobarometer 525, 11 % [S337; B] of adults in Portugal reach a high literacy score, against 18 % [S25; C] in the EU27.

Household outcomes point both ways. In EU-SILC (the EU survey of income and living conditions), 29,2 % [S99; A] of the population in Portugal could not face an unexpected expense in 2025, the same as the EU27 value of 29,2 % [S99; A]. Arrears on mortgage or rent, utilities or hire purchase affected 5,2 % [S98; A] in Portugal and 9,2 % [S98; A] in the EU27. A single verdict such as "Portugal has low financial literacy" is therefore not supported on average, though knowledge scores sit below the OECD-20 average.

Scams add urgency. In 2025 the cybercrime desk of the PGR (Procuradoria-Geral da República, public prosecution) received 4 497 complaints, up 13,16 % [S284; A], and Banco de Portugal (BdP) logged 2 577 fraud-associated payment complaints, up 45 % [S335; B]. Reports are not incidence. Card fraud was 0,018 % [S280; A] of card payment value in Portugal against 0,033 % [S280; A] in the EEA (2024), and police-recorded computer fraud was 18 697 [S309; C] in 2025 against 18 624 [S309; C] in 2024. Whether scam incidence is rising is not measured.

The policy cycle also turns now. The PNFF (Plano Nacional de Formação Financeira, national financial education plan) enters its fourth period, 2026–2030, and none of the four plans sets a numeric target or a euro budget [S254]–[S257; A]. The new plan says an impact-evaluation method will be built with SG REFORM and the EUI [S257 p.17; A], and the 2026 activity plan schedules a fifth national literacy survey [S262 p.14; A]. Choices about what to measure are being made now.

This paper asks four questions.

- **RQ1:** How financially literate is Portugal, measured, against other countries?
- **RQ2:** What does Portugal do, against six comparison countries?
- **RQ3:** What do people complain about most with money, and what help is missing?
- **RQ4:** What would work, and where does Mowei fit?

Section 2 sets out data and method. Section 3 gives a timeline. Section 4 measures Portugal against other countries (RQ1). Section 5 turns to complaints, the social signal and unmet needs (RQ3). Section 6 rebuilds one chart from original counts. Section 7 compares law and policy with six comparison countries, chosen for source depth rather than rank, and reviews what works (RQ2). Section 8 tests behavioural hypotheses, including five field observations from a member of the Mowei team, Section 9 gives scenarios, and Section 10 sets out measures (RQ4). Section 11 lists limitations and open conflicts.

Mowei, which publishes this paper, runs comparison and education tools. Section 10 discusses them, and a conflict-of-interest statement stands in the front matter.

# 2. Data, sources and method

## 2.1 Archive scan and triage

The paper starts from Mowei's own research archive: stored files, source records and evidence notes. The scan walked 814 772 files, and a keyword prefilter kept 35 959. After a cap of eight files per folder, removal of raw social dumps and de-duplication, 2 511 candidates remained [S371; C]. We withheld 185 of them from the triage tool (2.2). Jev, the triage tool, answered on 2 326. A keep rule (relevance of at least 0,35, or a topic other than "none" at 0,5 or more) kept 1 612 [S371; C]. Reader agents then read the kept items and skipped what was off-topic.

We tested Jev on a control of N = 40 items, labelled before Jev's answers were seen. Topic agreement was 90 % (36/40). The keep rule found 13 of 14 relevant items, with precision of about 45 %. The relevance threshold alone found 6 of 14 [S371; C]. 915 candidates had empty snippets, which probably cost recall, and N = 40 is small. Jev is a triage step, not a measurement. No figure in this paper rests on Jev labels.

## 2.2 What the triage model never saw

Of the 185 withheld items, 55 were Mowei content and 130 were internal process notes [S371; C]. Mowei content never goes to a third-party model, so Jev did not see it. The same holds for Mowei's own research notes on the social corpus, which only the writing team read. PDFs behind a 403 refusal were never fetched, because a refused fetch is a retrieval gap and we did not route around it. The copy of one source library was de-duplicated by name and size, so a few near-duplicates may remain [S371; C].

## 2.3 Verification labels

Every statistic carries a source tag and one of five labels. (A) means read at the official source in this run. (B) means an official statistic from Mowei's sourced facts database. (C) means an official page, or an archived official document, read by an agent. (D) means press or a law firm. (E) means a working paper, a search snippet, or Mowei's own scrape or model-coded corpus. Three internal Mowei files read by the team, the capability sheet [S351], the live-status check [S352] and the archive-scan counts [S371], carry (C) under one stated rule: for these files (C) means an internal file read by the team, not an official page. An official publication read at the publisher's site, such as a Banco de Portugal economic-studies article, takes (A). Each source keeps one label in text, charts and references, except the two compiled groups S330 (complaints findings) and S331 (facts-database rows), whose figures carry their own figure or row labels (see the verification table, available on request with the data file). A label never claims more than what was done. A press item stays (D) even when a PDF later confirmed one of its figures, and the figure then cites the PDF and takes (A).

The evidence file holds 1 710 figure rows: (A) 626, (B) 211, (C) 353, (D) 269 and (E) 251. Of 376 web rows re-checked against official PDFs, 129 matched, 10 did not (MISMATCH) and 237 were not found in the PDFs we could read (NOT FOUND). Not found means open, not false. Where a press figure and the PDF disagree, the PDF figure is used.

## 2.4 What was read at source

We read official PDFs with page numbers: the CNSF literacy survey reports and syntheses [S242]–[S245]; the four PNFF plans and the activity reports for 2020 and 2023–2025 [S254]–[S262]; the BdP *Relatório de Supervisão Comportamental* (RSC, conduct supervision report) for 2022–2024 [S273]–[S275]; ERSE bulletins [S277], [S278]; the EBA/ECB payment fraud reports [S280], [S281]; the PGR cybercrime report [S284]; the ASIC evaluation of its school programme [S268]; and the EC Consumer Conditions Scoreboard [S286]. Eurostat data came through its API [S98], [S99], and Global Findex through the World Bank API [S118].

Some sources could not be reached. We did not convert the OECD/INFE reports, PISA 2022 Volume IV (we use an archived chapter copy [S293; C]), the Flash Eurobarometer 525 annex or the BdP RSC 2025. The ASF (insurance and pension supervisor) site sits behind an image-code challenge that we did not bypass, and CMVM material came by press only. Figures that depend on these stay open or carry a lower label.

## 2.5 Complaint data and its biases

Regulators count different things: complaints received, closed, filed in the *Livro de Reclamações* (official complaints book) or posted on a platform. BdP counted 22 542 complaints in its competence in 2024 [S273 p.64-65; A], while the *Livro* holds 485 203 filings across all sectors in 2025 [S331; B]. We never add shares across rows. Complaints are also self-selected: people who complain are not a sample of people who have a problem. In the EU survey, 11 % [S290; C] of Portuguese adults who acted on a problem went to a public authority.

## 2.6 How the social corpus was counted

The social corpus comes from Mowei's own research files on Reddit and one investor forum. The main community, r/literaciafinanceira, holds 61 624 posts and 1 299 397 comments from 2020 to September 2026 [S355; E]. Other files cover an English-language expat community, a general Portugal community and a forum with 922 topics and 22 228 posts from 486 authors [S355; E]. Counts differ by file (for one community, 396 240, 1 299 397 and 1 261 743 comments) because dates and filters differ (K31); we never mix denominators.

AI models coded the posts, and a second model double-coded 10 % to 20 % of them. Fields below a kappa of 0,6 were dropped by the authors and we do not use them [S355; E]. The complaint study classified 1 946 879 documents in 9 communities, 22,1 % [S362; E] of them complaints, and 19,9 % [S361; E] of 3 843 221 in 34 communities. We show both and match each to its community list.

The corpus is skewed. Of 499 posts that state an age, 86 % [S369; E] are under 35. Only 1 073 of 6 000 coded posts (18 %) state a work status; of those, most are employees (594) [S355; E]. Investing is the largest theme [S355; E]. Places named in complaints are mostly Lisbon, but a named place is not the poster's residence [S355; E]. Gender, income, education and region of residence are not measured. We report aggregate counts and shares only: no user names, no quotes, no single post.

## 2.7 Number format and conflicts

Numbers use the Portuguese format: decimal comma, space as thousands separator, and a space before %. Where sources conflict, the text shows both values or the settled value with its reason, as with the OECD/INFE 2023 score (63,4 for Portugal, 62,7 for the OECD-20 average; K1 settled

[S242 p.88; A]) and BdP consumer-credit complaints (5 528 against 6 134; K2 open). Section 11 lists all open conflicts.

### 2.8 AI assistance

This paper was drafted with AI language models under a written protocol. A reviewer from a different AI model family checked it against the sources. Sources were re-read where they could be reached.

## 3. Since when: a timeline

In our reading (context, not a sourced finding), Portugal's public effort on financial education grew alongside a decade of household stress. The 2008–2014 financial crisis and the troika adjustment programme (2011–2014) form the background. We use no figures from that period. What matters here is the order: supervisors moved first, schools followed, and impact measurement is still missing [S256 p.28-29; A].

The CNSF (Conselho Nacional de Supervisores Financeiros, National Council of Financial Supervisors) brings together BdP, CMVM and ASF, and its plan and programmes appear under the name *Todos Contam* [S254], [S258]. A search record of the official *Diário da República* names Decreto-Lei n.º 228/2000 as the act that created the council [S403; E]. We could not read the act, so the timeline prints no founding year; no source we read supports the year 2007 in our brief (K34). The first PNFF covered 2011–2015, and three more followed: 2016–2020, 2021–2025 and 2026–2030 [S257 p.7; A]. Each plan names areas of work, such as digital services in 2016–2020 [S255 p.9-11; A]. None gives a numeric target or euro budget [S254]–[S257; A]. The 2021–2025 plan says its monitoring "não permite ... a desejada avaliação do impacto" (does not allow the desired impact evaluation) [S256 p.28-29; A].

Schools came next. The *Referencial de Educação Financeira* (financial education framework) was approved on 30/05/2013 [S263; A]. In 2018 financial education became mandatory in at least two school cycles, within *Cidadania e Desenvolvimento* (citizenship and development) [S256 p.12; A]. From 2025/26 the dimension *Literacia Financeira e Empreendedorismo* (financial literacy and entrepreneurship) is described as mandatory in all school years. A government release says the reform "tornou esta dimensão obrigatória em todos os anos de escolaridade" (made this dimension mandatory in all school years) [S394; C]. Search records place the rule in the 2025 national citizenship strategy (ENEC, *Resolução do Conselho de Ministros* n.º 127/2025) and the new essential learnings, while Decreto-Lei 113/2025 amends the 2018 curriculum decree [S397, S398; E], with press support [S36; D]. We could not read the decree or the strategy text, and no source gives hours per year. A press report mentions a seven-school pilot of financial literacy as its own subject [S103; D], and another says the *Referencial* has been under revision since March 2025 [S107; D].

The *Todos Contam* programmes show how reach is counted. The *Concurso Todos Contam* (schools contest) drew 38 projects and about 7 500 pupils in its 9th edition (2020) [S261; A], and 72 projects and 14 417 pupils [S258; A] in its 13th (2025). The 2025 *Semana da Formação Financeira* (financial education week) reached 67 800 [S258 ch.3; A] children and young people. Certified teacher courses reached more than 540 [S258 p.15; A] teachers in 18 courses since 2014; the one new 25-hour certified course of 2025 trained 12 [S258 p.14; A]. One partner association counts 576 teachers in 350 schools on another basis [S258 p.26; A]. These are counts of activity, not of effect, and are not added.

Measurement came through the BdP/CNSF survey. Waves ran in 2010, 2015, 2020 and 2023. The 2010 wave used another method and does not compare [S248; A]. The 2015 and 2020 waves are restated in the 2023 report, so the index is read within one report: 67,2, 61,8 and 62,7 [S242 p.73; A]. PISA financial literacy adds a second, school-age line. Portugal took part in 2018 and in 2022.

The scam wave came with digital payments. Card fraud is low as a share of payment value, yet reports to BdP and the PGR rose in 2025 (§1), and help for victims is a theme of §5.

**Table 1. Timeline of financial education policy and measurement in Portugal, 2010–2026**

| Year | Event | Source |
|---|---|---|
| 2010 | First BdP survey, 2 000 interviews; other method | [S246; A] [S248; A] |
| 2011 | PNFF 2011–2015, five objective levels, no targets or budget | [S254 p.11; A] |
| 2012 | DGE *Princípios Orientadores* (ten principles; BdP, CMVM, ISP) | [S264; A] |
| 2013 | *Referencial de Educação Financeira* approved 30/05/2013 | [S263; A] |
| 2015 | Second survey; index 67,2 (restated) | [S254 p.19; A] [S242 p.73; A] |
| 2016 | PNFF 2016–2020 adds digital services and entrepreneurs | [S255 p.9-11; A] |
| 2018 | Mandatory in at least two school cycles; first PISA FL, PT 505,4 | [S256 p.12; A] [S251 Table B.1; A] |
| 2020 | Third survey, 1 502 interviews, index 61,8 (restated); OECD/INFE 7th of 26 | [S243 p.80; A] [S247 p.1; A] |
| 2021 | PNFF 2021–2025, three dimensions | [S256 p.23; A] |
| 2022 | PISA FL: PT 494, OECD-14 498 | [S293; C] |
| 2023 | Fourth survey, 1 510 interviews, index 62,7; OECD/INFE 63,4, 13th of 39 | [S242 p.12, p.73, p.88; A] |
| 2025 | Semana with 67 800 young people; Concurso 72 projects; dimension mandatory in all school years from 2025/26 (ENEC; decree not read) | [S258; A] [S394; C] [S398; E] |
| 2026 | PNFF 2026–2030; fifth survey planned; impact-evaluation method | [S257 p.17; A] [S262 p.14; A] |

# 4. How it shows: Portugal measured against other countries

This section sets Portugal's measured results beside those of other countries and shows both directions. Instruments, age groups and country sets differ, so each figure names its own. Differences between groups of people are hypotheses, treated in §8.

## 4.1 The national surveys (BdP/CNSF 2010, 2015, 2020, 2023)

The Banco de Portugal (BdP, the central bank) and the Conselho Nacional de Supervisores Financeiros (CNSF, the council of financial supervisors) have run four surveys of adults aged 16 and over, the *Inquérito à Literacia Financeira* (ILF, financial literacy survey). The 2023 report restates earlier waves on its own method, so one series can be read inside it. The index (0–100) was 67,2 in 2015 [S242 p.73; A], 61,8 in 2020 [S242 p.73; A] and 62,7 in 2023 [S242 p.73; A]. The 2010 wave used another method (58,01 [S248 slide 24; A]) and is not comparable.

The headline hides a split. Knowledge rose from 56,6 in 2020 to 60,1 in 2023 [S242 p.73; A]. Attitudes slipped from 63,5 to 62,9 and behaviour from 65,0 to 64,7 [S242 p.73; A]. Mean correct answers on ten knowledge questions rose from 5,8 to 6,4 [S242 p.14; A], still under a 2015 value of 7,1 [S303; C]. The index fell between 2015 and 2020 and recovered only in part; the recovery came from knowledge.

Two conflicts are settled at source. For 2020 the index appears as 61,7 and as 61,8 (K3). 61,7 is the original 2020 median [S243 p.79; A]; 61,8 is the 2020 mean as restated in 2023 [S242 p.72; A]; the original 2020 mean was 60,2 [S243 p.80; A]. For 2015 (K29), 67,2 is the restated mean, 68,3 the original median and 66,1 the original mean [S243 p.80; A]. This paper uses the restated mean only.

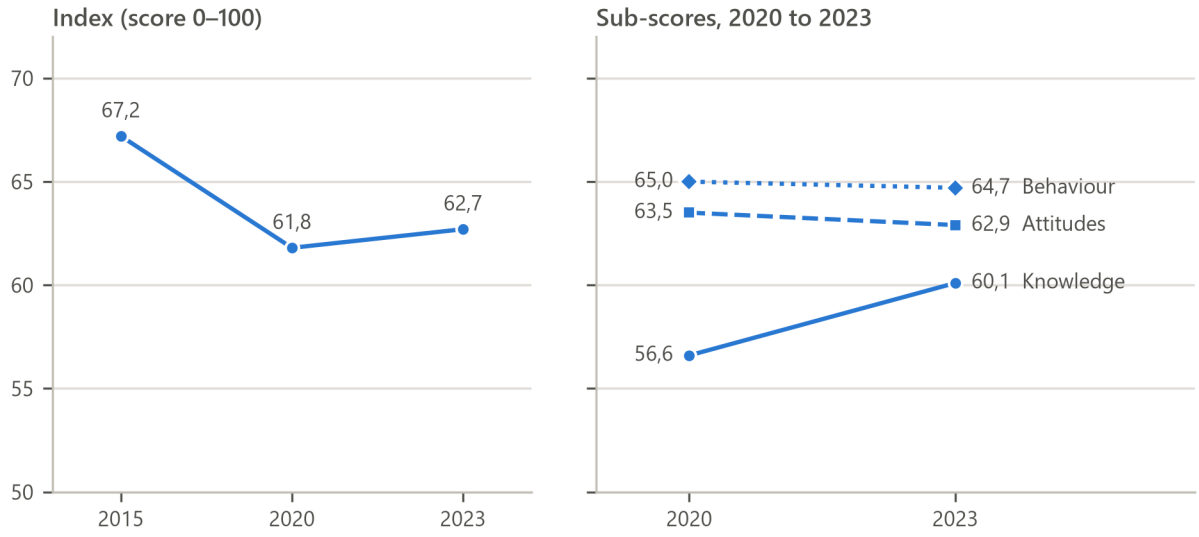



**Figure 1. National financial literacy index and sub-scores, restated series, adults aged 16 and over, 2015–2023.**

*Source: CNSF/Banco de Portugal, 4.º Inquérito à Literacia Financeira 2023 [S242 p.73; A], restated series only. The 2010 wave (other method) and the original 2015 and 2020 values are not plotted. Scores 0–100.*

## 4.2 OECD/INFE 2020 and 2023

The OECD's International Network on Financial Education (INFE) ran adult surveys in 2020 and 2023; the CNSF report reproduces the 2023 comparison for ages 18+. Portugal scored 63,4 and ranked 13th of 39 countries [S242 p.88; A]. The OECD-20 average is 62,7 and the 39-country average 60,4 [S242 p.88; A] (K1, settled at the CNSF report). The digits 62,7 also name Portugal's own national index for ages 16+, and 63,4 is also its attitudes score: same digits, different objects, never compared. Germany scored 76,0 and Italy 53,3 [S242 p.88; A]. The OECD report itself was not read, and a BdP slide's euro-area row that repeats Portugal's own 63,4 (K22) is not used.

Against the OECD-20 average Portugal is below on knowledge (60,7 against 66,9; 21st [S242 p.91; A]) and above on behaviour (65,6 against 61,6; 11th [S242 p.90; A]), attitudes (63,4 against 58; 7th [S242 p.89; A]) and financial well-being (51,4 against 46,7; 7th [S242 p.95; A]).

Adults answering at least five of seven knowledge items correctly were 48 % against 58 % (OECD-20) and 50 % (all countries) in 2023 [S293; C]; the highest value in the sources we read is Hungary, 75 % [S293; C]. In 2020 the same threshold gave 42,8 % against 56,8 % (OECD-12) and 52,5 % (26 countries) [S243 p.98; A]. Country sets differ, so the waves are not read as a trend. In 2020 Portugal scored 13,1 points of 21 against a 26-country average of 12,7, 7th of 26 [S247 p.1; A]. Its 2020 knowledge rank is 16th in a press note and 17th in the report [S247 p.1], [S243 p.98] (K10, open).

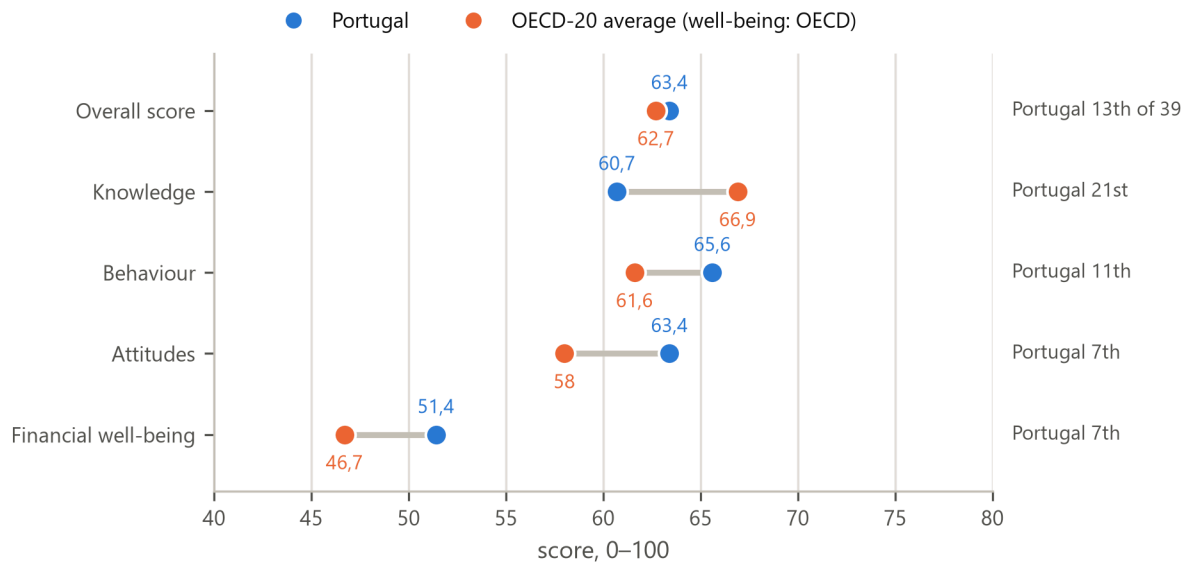



**Figure 2. Portugal against the OECD-20 average on the OECD/INFE 2023 adult survey: overall score, knowledge, behaviour, attitudes and financial well-being (ages 18+).**

*Source: CNSF report reproducing the OECD/INFE 2023 comparison [S242 p.88-95; A] (well-being: p.95). Rank among 39 countries at the right. Portugal's overall score 63,4 and its attitudes score 63,4 are separate scores.*

## 4.3 PISA 2018 and 2022

PISA tests 15-year-olds. Portugal took the financial-literacy test for the first time in 2018 [S251 p.7; A]. Its mean was 505,4 [S251 Table B.1; A] against an OECD figure of 505 [S53; C], with Estonia at 547 [S53; C]. Below Level 2 were 14 % of students, against 5 % in Estonia and 21 % in Italy [S251 p.9; A]; 8 % reached the top level [S251 p.9; A].

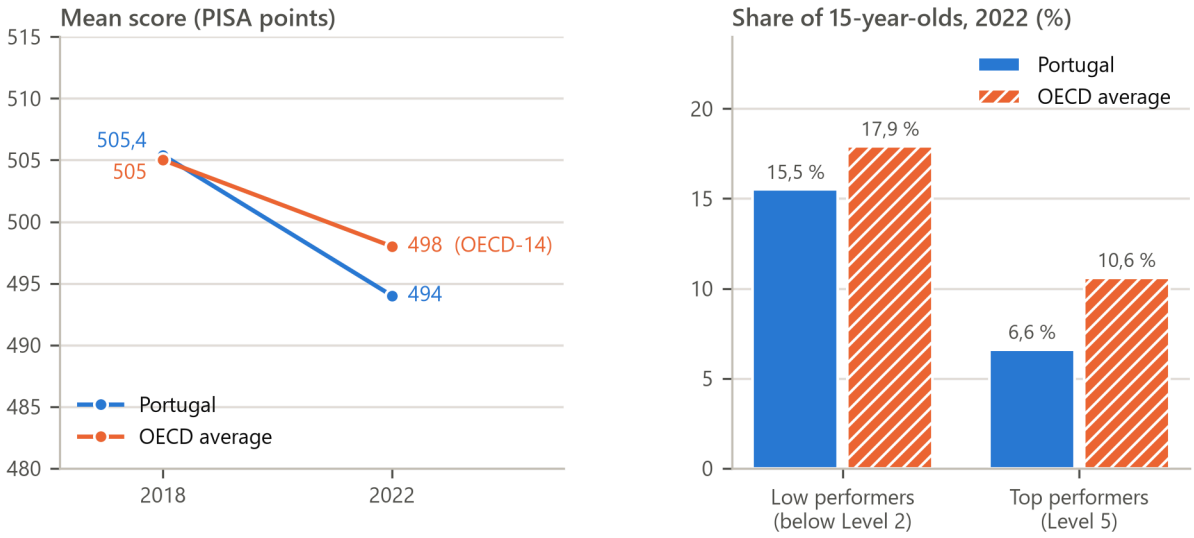



**Figure 3. PISA financial literacy, 15-year-olds: Portugal and the OECD average, 2018 and 2022, and low and top performers in 2022.**

*Source: Portugal 2018 [S251 Table B.1; A]; OECD 2018 [S53; C]; all 2022 values [S293; C]. Country sets differ between rounds; Portugal's 2022 mean (494) is not significantly different from the OECD-14 average (498).*

In 2022 the mean was 494 (confidence interval 490–498, OECD rank range 6–13) against 498 for the OECD-14 average [S293; C], not significantly different. Low performers were 15,5 % against 17,9 %, top performers 6,6 % against 10,6 % [S293; C]. A press report gives "9th of 20" [S129; D]; the OECD text gives only the range, which is used here (K14). The OECD reports the fall from 505,4 to 494 as significant [S293; C], though country sets differ between rounds. Portugal has fewer low performers than average and also fewer top performers.

## 4.4 Flash Eurobarometer 525 (2023)

Flash Eurobarometer 525 surveyed adults in all EU states. The share with a high financial-literacy score is 11 % in Portugal [S337; B] against 18 % in the EU [S25; C]. Per the facts-database row, this is the lowest in the EU, shared with Latvia [S337; B]; a press report gives the same [S381; D], but the per-country annex was not read at source. An earlier 16 % is not the overall score: the same press report gives 16 % as Portugal's high share on the separate knowledge component [S381; D] (K21, settled at press level). The Commission's own release gives the EU27 split as 18 % high, 64 % medium and 18 % low [S380; C]; in only four member states did more than 25 % score high [S380; C], with the top values near 27–28 % in a search summary [S386; E]. A Portuguese "low" share of 28 % circulates [S97; E], but one press report attributes 28 % to the low share on the knowledge component, not on the overall score [S381; D]. We therefore do not report a Portuguese low or medium share on the overall score (K4, open). On the inflation item 55 % answered correctly against 65 % in the EU; the lowest is Cyprus at 48 % [S24; D].

This is the only EU-wide ranking in the sources we read. Per the facts-database row it places Portugal at the bottom, on a measure whose cut-off differs from the OECD/INFE score, where Portugal ranks 13th of 39. The two are not reconciled here.

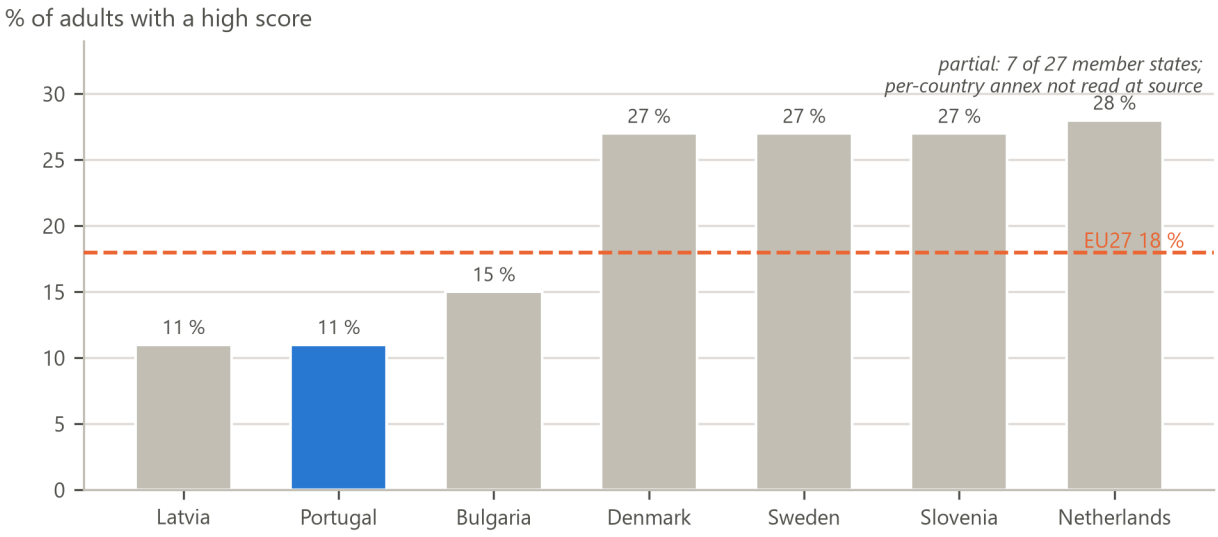



**Figure 4. Flash Eurobarometer 525 (2023): share of adults with a high financial-literacy score, the values found for seven member states and the EU27.**

*Partial: 7 of 27 member states; the per-country annex was not read at source. Source: Portugal and Latvia [S337; B]; Bulgaria [S383; D]; Denmark, Slovenia, Sweden and the Netherlands [S386; E]; EU27 [S380; C].*

## 4.5 S&P Global FinLit 2014

In the 2014 S&P Global FinLit survey, 26 % of adults surveyed in Portugal counted as financially literate (three of four topics), against 71 % in Norway, Denmark and Sweden, 66 % in Germany, 49 % in Spain and 33 % worldwide [S252; E]. The source is conference slides and the data are dated; they give context only.

## 4.6 Outcomes

*Saving.* In 2023, 53,9 % of adults had saved in the previous year [S242 p.32; A], down from 65 % in 2020 and 68,3 % in 2015 [S242 p.32; A]. A press figure of 54,8 % [S3; D] is not found in the CNSF report (K5, open); 53,9 % is used. Of adults, 67,6 % could pay an expense equal to a month's income without borrowing [S242 p.13; A]. The share of people unable to face an unexpected expense (EU-SILC, survey year 2025) fell from 33,0 % in 2019 to 29,2 % [S99; A]. The saving rate, emergency savings, arrears, debt holding and credit cost, with comparators, are in §4.7.

*Debt and assets.* Debt holding compares 41,7 % in 2024 (corrected ISFF release, K12) with 41,5 % in the 2023 HFCS wave, a one-year gap. Deposits held 75,4 % of financial assets and 86,6 % were unwilling to take any financial risk [S313; B] (2024). Loans to households grew 10,8 % a year (provisional, August 2026), third highest of 21 countries, against 3,1 % in the euro area [S327; B].

*Access and search.* Account ownership among those aged 15+ was 91,40 % in 2024 (women 88,17 %, men 94,76 %) against 98,38 % in Spain [S118, S119; A]. The CNSF's 96 % with a current account is for ages 16+ [S331; B] (K15): different populations, never one series. In 2023, 44,1 % did not search or consider another option for their latest product, against 32,8 % in 2020 and 26,2 % in 2015 [S242 p.51-52; A].

Income, housing and credit-market structure also drive these outcomes. None is read here as an effect of literacy.

## 4.7 Where Portugal is above and where below

"Above" means Portugal stands better than the comparator, "below" worse; "level" means no difference in the source's own terms. The comparator is the EU unless stated.

**Table 2. Where Portugal stands above, below or level with the comparator, by metric**

| Metric | PT | Comparator | Reading | Source |
|---|---|---|---|---|
| OECD/INFE overall | 63,4 | 62,7 (OECD-20) | above | [S242 p.88; A] |
| Knowledge score | 60,7 | 66,9 (OECD-20) | below | [S242 p.91; A] |
| Behaviour score | 65,6 | 61,6 (OECD-20) | above | [S242 p.90; A] |
| Attitudes score | 63,4 | 58 (OECD-20) | above | [S242 p.89; A] |
| Well-being score | 51,4 | 46,7 (OECD) | above | [S242 p.95; A] |
| At least 5 of 7 items, % | 48 | 58 (OECD-20) | below | [S293; C] |
| PISA 2022 mean | 494 | 498 (OECD-14) | level | [S293; C] |
| PISA 2018 mean | 505,4 | 505 (OECD) | level | [S251 Table B.1; A], [S53; C] |
| FL525 high score, % | 11 | 18 | below | [S337; B], [S25; C] |
| FL525 inflation item, % | 55 | 65 | below | [S24; D] |
| Gross saving rate 2025, % | 12,27 | 14,32 | below | [S313; B] |

| Metric | PT | Comparator | Reading | Source |
|---|---|---|---|---|
| No emergency savings, % | 21 | 16 | below | [S313; B] |
| Unable to face expense, % | 29,2 | 29,2 (EU27) | level | [S99; A] |
| Arrears, % | 5,2 | 9,2 (EU27) | above | [S98; A] |
| Households with debt, % | 41,7 | 41,5 (euro area) | level | [S326; B], [S253 p.6; A] |
| New consumer-credit rate, % | 8,99 | 7,60 (euro area) | below (costlier) | [S341; B] |

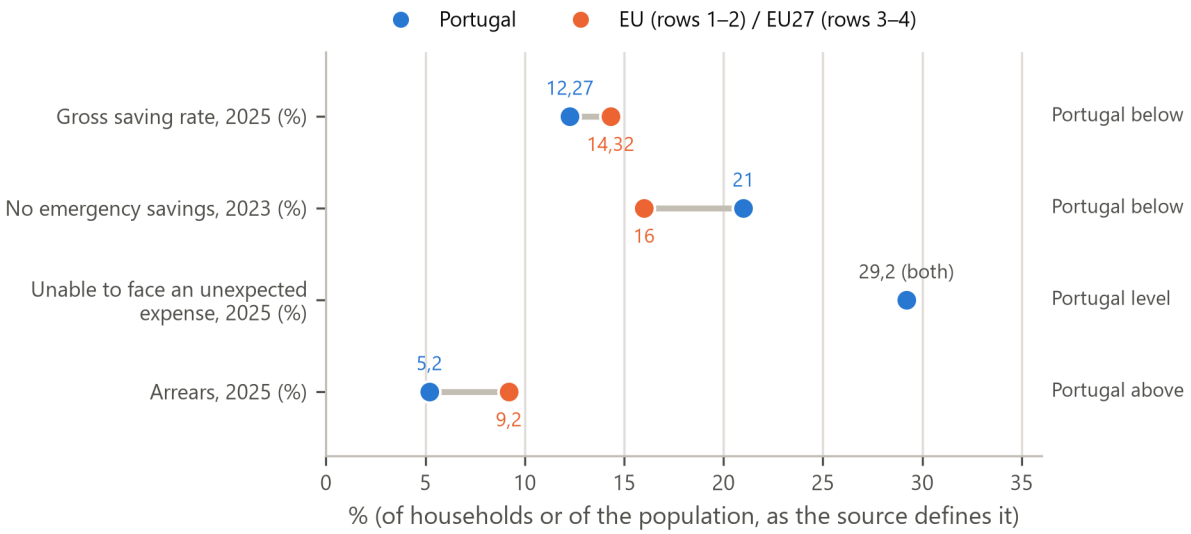



**Figure 5. Household outcomes, Portugal against the EU: gross saving rate, no emergency savings, inability to face an unexpected expense, arrears.**

*Source: EU-SILC [S98, S99; A] (2025); saving rate (2025) and emergency savings (2023) [S313; B]. Years differ by row. The expense row is a share of people, not of households. The reading (above, below, level) follows Table 2.*

Five public claims can be checked against this evidence, with the verdicts of the evidence file.

C1, "Portugal has low financial literacy": *contradicted on average* for the overall OECD/INFE score, *supported* for knowledge and for the FL525 high-score share. C2, "Portugal is among the worst in Europe": *contradicted on average*, since it is 13th of 39 on one instrument and level with the OECD on PISA, although the FL525 high-score share is the lowest in the EU per the facts-database row (per-country annex not read). C4, "literacy has improved since 2010": *contradicted on average*; the restated index fell from 67,2 to 62,7 across 2015–2023, knowledge and correct answers rose from 2020 to 2023, and 2010 cannot be compared. C6, "the Portuguese don't save": *contradicted on average* (53,9 % saved), though the saved share is falling and the saving rate is below the EU. C9, "people don't compare products": *supported* for a large and rising minority; 44,1 % did not search, against 26,2 % in 2015, while 40,3 % compared several institutions [S242 p.52; A].

## 5. What people complain about with money, and what is missing

Sources count different things: complaints received, closed, filed in the *Livro de Reclamações* (official complaints book), posted on a platform, or coded in a corpus. Shares are never added across sources.

## 5.1 National ratios from the regulators

Banco de Portugal (BdP) received 22 542 complaints within its competence in 2024, down 16,4 % [S273 p.64; A] after 26 976 in 2023, which was up 23,9 % [S274 p.74-75; A]. The RSC (*Relatório de Supervisão Comportamental*, conduct supervision report) explains the 2024 fall by the end of temporary housing-credit support laws and by supervisory action, which cut complaints on the credit register (−48,83 %), arrears handling (−23,20 %) and bank fraud (−31,91 %); deposits rose 3,4 % [S273 p.64; A]. Seven in ten complaints came through the *Livro de Reclamações* and 23,7 % through the BdP's Portal do Cliente Bancário [S273 p.64; A]. Table 3 gives the product split; its 2025 column comes only from press reports.

**Table 3. Complaints to Banco de Portugal by product: share of complaints in BdP competence, 2024, and the press figures for 2025**

| Product | 2024, share of 22 542 | 2025, share of 22 795 (press) |
|---|---|---|
| Deposits | 32,1 % [S273 p.65; A] | 32 % [S64; D] |
| Consumer credit | 24,5 % [S273 p.65; A] | 27 % [S64; D] |
| Housing credit | 12,5 % [S273 p.65; A] | 10 % [S64; D] |
| Cards | 11,9 % [S273 p.65; A] | 11 % [S64; D] |
| Transfers | 7,8 % [S273 p.65; A] | 11 % [S64; D] |

The 2025 consumer-credit count is open (K2). One press report gives 5 528 [S63; D], but 5 528 is the 2024 count in the RSC 2024 (7 269 in 2023, down 24,0 %) [S273 p.65-66; A]. Another gives 6 134 [S64; D], and the same outlet words it as "6.134 reclamações, mais 11%" [S388; D]. A rise of 11 % on the 2024 count of 5 528 gives about 6 136, and applying the 27 % share to 22 795 gives about 6 154; both are our arithmetic. The figures fit together, with 6 134 as the probable 2025 count, but neither was read in the RSC 2025, which settles it (its pages returned 403 in this run).

Of 24 975 complaints closed in 2024, 12 % showed irregularities and 66 % of those were solved voluntarily [S273 p.71; A]. For 2025 one press text gives 6,3 % as "o rácio de reclamações encerradas com deteção de irregularidades" (the share of closed complaints with irregularities), down from 12 % [S64; D], which is the RSC 2024 base; another says 6,3 % "das reclamações" [S63; D] (K27, narrowed). The series is sensitive to method: the RSC 2024 explains its own rise of 8,4 points in the irregularity share by a changed supervisory approach [S273 p.64; A]. No improvement from 2024 to 2025 is claimed until the RSC 2025 is read.

BdP also publishes complaint rates per contract; §6 gives them for 2024 and 2025.

Institutions refunded 21 993 867 € to clients in 2024 [S273 Quadro IV.8.4; A] and 8,9 M€ in 2025, of which 4,20 M€ trace to *preçário* (fee schedule) causes [S64; D].

The ASF (insurance and pension-fund supervisor) received 2 945 complaints in 2025 [S331; B]. Half-year reports add up to about 2 925 [S72; E], [S71; D] (K17, small gap, open). Of 1 450 with substantive matter, motor accounts for 44,0 %, fire and other damage 20,6 % and life 10,4 % [S331; B], [S299; C]. Insurers handled 24 218 Non-Life complaints themselves, 62,5 % on claims handling (computed from printed counts) [S312; B]. Client ombudsmen assessed 2 232 cases, 68,0 % on claims handling, with 22,8 % favourable to the complainant [S299; C].

The securities regulator CMVM logged 269 complaints in 2024 (*registo e depósito*, registration and deposit of securities, 31 %; investment funds 30 %; quality of information 12 %) [S73; D] and 271 in 2025 (custody plus interest and dividends 38 %) [S74; D]. Both come through press. With counts this

small, a few cases move a share.

The *Direção-Geral do Consumidor* (DGC, consumer directorate) counted 485 203 filings in the Livro in 2025 [S331; B]. By supervising body, ASAE sectors hold 47,3 %, ANACOM (communications) 21,2 %, health ERS 7,3 %, transport AMT 5,6 %, BdP 4,4 % (21 161) and ERSE (energy) 3,9 % [S331; B], shares computed by us. The electronic-book count is open (K18): 224 166 from the DGC against 230 543 from platform statistics [S330; C]. The BdP row is not BdP's own channel; the two are not added. The consumer arbitration network archived 9 217 cases in 2023, 82 % (7 599) resolved [S181; D], a press report.

In the EU Consumer Conditions Survey, of adults who had a problem and acted, 61 % in Portugal went to the retailer against 85 % in the EU27, and 11 % to a public authority against 15 % [S290; C].

**Scams as a complaint topic.** BdP fraud-associated payment complaints rose 45 % in 2025, to 2 577 [S335; B], and cybercrime complaints to the Ministério Público (PGR) rose 13,16 % [S284; A]. Fraud complaints had fallen 31,91 % in 2024 [S273 p.64; A], and a press report puts H1 2025 losses at 5,3 M€, down 40,4 % [S85; D]. The card-fraud rate is 0,018 % in Portugal against 0,033 % in the EEA [S280; A]. Who bears the loss is open (K32). BdP reports users bearing 84,11 % of credit-transfer fraud losses, against providers bearing 54,51 % of card losses [S335; B]. An EBA/ECB report shows Portuguese users below 80 % for 2024, read from a chart [S280; A]. Periods and bases may differ, so neither is "the" Portuguese share. A press piece puts savings from payee confirmation at 6,5 M€ in its body and 65 M€ in its headline [S87; D] (K16, open).

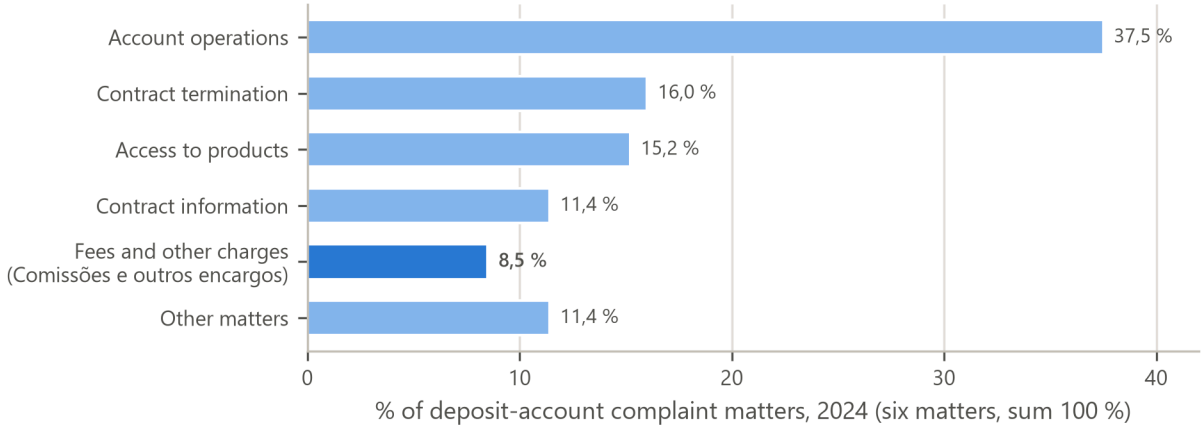



**Figure 6. What deposit-account complaints to Banco de Portugal are about, 2024: share of deposit-account complaint matters.**

*Source: Banco de Portugal, Relatório de Supervisão Comportamental 2024 [S273 p.62; A], read from the report's infographic; the six shares sum to 100 %. The fee bar (Comissões e outros encargos) is highlighted.*

**Verdicts on three public claims.** *"Bank fees are the main complaint" (C7): contradicted on average where measured; not measured across all products.* The BdP product split has no fee line [S273 p.65; A]. Fees are measured only within deposit complaints: "Comissões e outros encargos" (fees and other charges) are 8,5 % of deposit-account complaint matters, behind account operations (37,5 %), contract termination (16,0 %), access to products (15,2 %) and contract information (11,4 %), with other matters 11,4 % [S273 p.62; A] (read from the report's infographic; the six shares sum to 100 %). In 2025, 4,20 M€ of the 8,9 M€ refunded traced to fee-schedule causes [S64; D], so fee errors matter in money even where they are a minority of complaints. In the self-selected social signal fees are also a minority: 9 % for prices and fees together among loud social complaints (§5.2). *"Scams are rising fast" (C8): not measured*

*for incidence.* Reports rose in 2025, losses did not. *"Complaints about banks keep rising" (C11): contradicted on average.* The 2024 fall of 16,4 % [S273 p.64; A] and a 2025 change within competence of +1,1 % [S63; D] follow the 2023 rise; consumer credit was the one topic whose ratio rose in 2025 [S172; E].

## 5.2 The social-media signal

This subsection uses counts of coded posts and comments only. It reports what posters talk about, not how common a problem is. All figures are model-coded and self-selected (E).

In a corpus of 1 946 879 posts and comments from nine communities, 22,1 % contained a complaint [S362; E] (19,9 % of 3 843 221 documents in 34 communities [S361; E]). Banks and finance were the target of 10,4 % of complaints (CI 7,9 to 12,9) [S362; E]. Among loud complaints, prices and fees and deception or mis-selling each took 9 % [S362; E]. Complaints stay among peers: 97,4 % were voiced to peers alone, and 0,3 % led to a formal step [S362; E].

What people ask and get wrong shows in one personal-finance community. Of 6 000 coded posts (weighted), 32 % expressed confusion and 6 % complained about price [S369; E]. Among 782 coded tax posts, 56 % expressed confusion about the rules [S369; E]. Across 355 question threads (of 400 sampled) in that community, investing was 27,6 % of main topics, tax 24,2 % and banking 12,7 % [S355; E]. Of 456 sampled threads with three or more replies, 57 % were not fully answered; the share was 67 % for benefit rules (n=27) and 51 % for tax rules (n=53) [S363; E]. Fraud posts drew no reply in 8,7 % of cases, against 5,8 % as the source's comparison figure [S363; E].

The sample skews. Of 499 posts stating an age, 86 % came from people under 35 [S369; E]. Of the 18 % of coded posts that state a work status, most are employees; places named in complaints are mostly Lisbon; residence is not measured [S355; E]. A claim about "the Portuguese" cannot rest on this signal.

## 5.3 What is missing

Each row is a need that recurs across sources. "Not served" means the sources we read evidence no body or product serving it fully, not that none exists. Counts are as sourced; their denominators differ.

**Table 4. Recurring needs that the sources we read do not show any body or product meeting in full (M1–M11)**

| # | Need | Evidence and count | Evidenced as serving part |
|---|---|---|---|
| M1 | Whom to complain to, how, and whether it is worth it | EU27: 41 % of those who did nothing did not know how or where; 43 % found it too complex; 33 % unsure of rights [S290; C]. ASF closed 720 of 2 170 concluded complaints (33 %) administratively [S330; B]. Online: 97,4 % to peers alone [S362; E] | Livro; ASF portal; BdP channel; Provedor de Justiça routing list |
| M2 | Debt counselling capacity | RACE (consumer debt support network): about 10 thousand users since 2012 [S231; C]; DECO help requests 29 154 in 2019 [S232; D]; PARI about 235 thousand procedures a month [S323; B] (a figure of 801 780 contracts [S236; D] counts something else; K13 open, not mixed) | RACE; DECO; GOEC; PERSI/PARI (bank-run) |
| M3 | Help after a scam; who bears the loss | Users bear 84,11 % of transfer-fraud losses [S335; B] (K32 open); 40 % of online-fraud victims did not report, 2022 [S331; C]; 15 % of EU victims reported to police [S184; C] | BdP; payment providers; PGR |
| M4 | Plain-language cost comparison | BdP comparator covers payment-account fees only [S238; D]; 44,1 % did not search [S242; A]; 30,3 % knew their exact fee, 2020 [S308; C] | BdP fee comparator |

| # | Need | Evidence and count | Evidenced as serving part |
|---|---|---|---|
| M5 | Independent advice | Institution's own information shaped 62,9 % of choices [S242 p.53; A]; 50,6 % of consumer credit via intermediaries [S336; B]; availability count *not measured* | None evidenced |
| M6 | A rule plus a calculation for one's own case | 57 % of 456 threads not fully answered [S363; E]; 56 % of tax posts express confusion [S369; E] | Official guides; forums |
| M7 | What a policy covers, before buying | Claims handling 62,5 % of insurers' Non-Life complaints [S312; B]; 68,0 % at ombudsmen, 22,8 % favourable [S299; C] | ASF Descodificador [S374; C]; ombudsmen |
| M8 | Comparable complaint data per provider | ERSE publishes no per-company counts [S330; C] | Regulators, each in its own format |
| M9 | Digital access and safety | 27,4 % of adults offline, 2023 [S303; C]; 40 % of internet users never sought safe-use information, 2022 [S331; C] | BdP Portal do Cliente Bancário |
| M10 | Measured effect of public financial education | No plan has numeric targets or a euro budget [S254]-[S257; A]; monitoring does not allow impact evaluation [S256 p.28-29; A] | CNSF (planned) |
| M11 | Guard against finfluencer content posing as education | 33 active finfluencers, 32 with signs of advertising non-compliance, 28 with signs of illegal solicitation, 2024 [S206; D]; prevalence *not measured* | CMVM; BdP supervision |

*Rows resting on press (D) or model-coded (E) figures stay open until they are read at source.*

# 6. Key evidence base: one chart rebuilt from the original counts

Figure 7 rebuilds the complaint-topic shares from the Banco de Portugal report on complaints within its competence (RSC 2024), not from press summaries. Its data are available on request in the paper's CSV file.

*What it shows.* For five product groups, the share of all complaints in BdP competence in 2023 and 2024: deposits 25,9 % then 32,1 %, consumer credit 26,9 % then 24,5 %, housing credit 18,2 % then 12,5 %, cards 11,0 % then 11,9 %, transfers 6,6 % then 7,8 % [S273 p.65; A]. The denominator is 22 542 complaints in 2024 (−16,4 %) [S273 p.64; A] and 26 976 in 2023 [S274 p.74-75; A]. Original counts add a point (Quadro IV.7.1, Table 5 below). Consumer-credit complaints fell from 7 269 to 5 528 (−24,0 %) [S273 p.65; A], faster than the total, which is why its share fell. A press report labels 5 528 as a 2025 count (K2); the report shows it is the 2024 count, so no 2025 shares are plotted. Deposit complaints rose from 6 998 to 7 238 (+3,4 %) [S273 p.65; A] while the total fell 16,4 %, so deposits gained share both in count and because the total fell. Housing credit fell most, from 4 917 to 2 809 (−42,9 %) [S273 p.65; A], as the temporary support laws ended [S273 p.64; A].

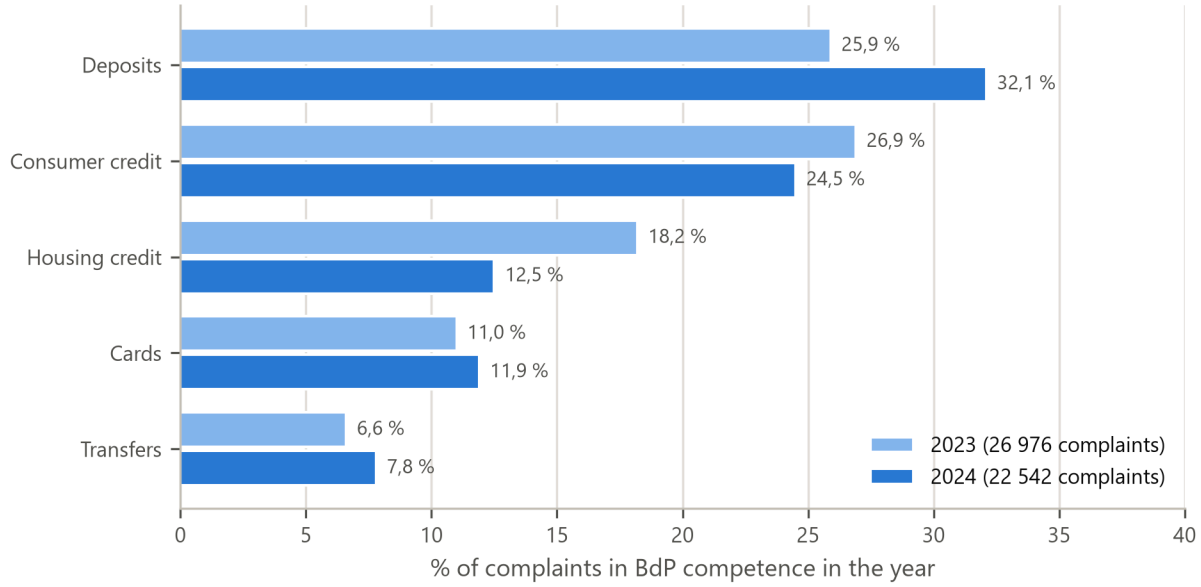



**Figure 7. Complaints to Banco de Portugal by product, share of complaints in BdP competence, 2023 and 2024.**

*Source: Banco de Portugal, Relatório de Supervisão Comportamental 2024 [S273 p.64-65; A] and 2023 [S274 p.74-75; A]. Denominators: 26 976 complaints (2023) and 22 542 (2024); consumer-credit complaints 7 269 → 5 528; deposits 6 998 → 7 238 (+3,4 %). No 2025 bars (K2 open).*

**Table 5. Complaints in BdP competence by product, counts and rate per unit, 2023 and 2024 [S273 p.65, Quadro IV.7.1; A]**

| Product | 2023 | 2024 | Change | Rate 2023 → 2024 | Unit of the rate |
|---|---|---|---|---|---|
| Deposits | 6 998 | 7 238 | +3,4 % | 37 → 37 | per 100 000 accounts |
| Consumer credit | 7 269 | 5 528 | −24,0 % | 59 → 44 | per 100 000 contracts |
| Housing credit | 4 917 | 2 809 | −42,9 % | 253 → 150 | per 100 000 contracts |
| Payment cards | 2 973 | 2 673 | −10,1 % | 127 → 112 | per million contracts |
| Credit transfers | 1 780 | 1 760 | −1,1 % | 73 → 69 | per 10 million transfers |
| Other products (five lines) and other matters | 3 039 | 2 534 | −16,6 % | n/a | n/a |
| Total | 26 976 | 22 542 | −16,4 % | n/a | n/a |

The rate column changes the reading. Per account, the deposit rate held at 37 per 100 000 accounts in both years [S273 p.65; A]; the share rose mainly because other products fell (our arithmetic). Per contract, housing credit drew 150 complaints per 100 000 contracts in 2024 against 44 for consumer credit [S273 p.65; A]. The "other" row is our sum of the printed counts.

*What it cannot show.* It counts complaints, not harm, and only those reaching one regulator. The chart does not divide by contracts held, so a large product can top it while being a small source of trouble per contract; Table 5 gives the rates. The companion rows give per-unit rates for 2025, a different year, so they are read beside the chart and never merged with it.

**Table 6. Complaints per unit by product, 2025**

| Product | Complaints per unit, 2025 [S301; B] |
|---|---|
| Mortgage credit | 1,20 per 1 000 contracts |
| Consumer credit | 0,48 per 1 000 contracts |
| Current accounts | 0,37 per 1 000 accounts |
| Cards | 0,10 per 1 000 cards |
| Transfers | 0,05 per 10 000 transfers |

*Reading rule.* Sources count different things: complaints received, closed, filed in the *Livro de Reclamações* (official complaints book), or posted on a platform. Shares are never added or stacked across sources, and platform or social-media shares are not set beside these regulator shares.

A per-country chart of the Flash Eurobarometer 525 high-literacy share would be the preferred evidence chart; the per-country table was not available. The survey pages returned empty shells in this run, the data annex is a PDF not yet read at source, and only seven country values were found: Portugal and Latvia 11 % from the facts-database row [S337; B] (also in a press report [S381; D]), Bulgaria 15 % [S383; D], Denmark, Slovenia and Sweden 27 % and the Netherlands 28 % [S386; E], against the EU27 18 % [S380; C]. A retry of the official survey pages on 2026-11-09 again returned empty pages, and the factsheets are PDF only. That partial set appears in Figure 4, clearly flagged as partial.

# 7. Current law and policy

## 7.1 Portugal against six comparison countries

These six countries have the most fully sourced rows in the sources we read; the list is not a league table. The last column gives the weakest label in each row. No page we read publishes school hours, so "hours" records a gap in the sources, not proof that none exist.

**Table 7. Portugal against six comparison countries: mandatory status, hours, funding or scale, measured effect**

| Country | Mandatory at school? | Hours set? | Funding / scale | Measured effect | Weakest label |
|---|---|---|---|---|---|
| Portugal | In at least two cycles since 2018 [S256 p.12; A]. All years from 2025/26 per a government release [S394; C] (strategy and decree text not read [S398; E]); the PNFF 2026–2030 states a decision to reinforce importance and teaching time [S257 p.5; A] | None found | No numeric targets or euro budget in any PNFF plan [S254]–[S257; A]. More than 540 teachers trained in 18 courses since 2014 [S258; A] | Monitoring "não permite ... a desejada avaliação do impacto" [S256 p.28-29; A]; method being built with SG REFORM and EUI [S257 p.17; A] | E |
| Estonia | Inside compulsory social education [S269 p.11; A]; no separate mandatory subject seen [S154; E] | None found | No funding figure; targets are "growing" or "declining" [S269 p.25-28; A] | PISA 2018: 547 against OECD 505 [S53; C]; programme effect not measured | E |
| Netherlands | No separate subject; no separate financial-literacy core goal in the bill [S272 p.13; A] | None set | Three-year subsidy to 27 mbo and 110 secondary schools, no euro amount [S271 p.16, p.22; C] | Non-randomised study of lesson material: score gain 17 against 10 % [S270 p.4; C] | C |

| Country | Mandatory at school? | Hours set? | Funding / scale | Measured effect | Weakest label |
|---|---|---|---|---|---|
| Czechia | Compulsory in primary and secondary since 2013 [S145; C] | None found | None found | PISA 2022: 507 against 498 (OECD-14), level as in 2012; 15 % below Level 2, 5 points more than in 2012 [S145; C] | C |
| England | Citizenship at key stages 3–4 since 2014 [S48; C]; statutory primary citizenship planned [S139; E] | None set | Money and Pensions Service grants, no amount; one reached about 54 000 children [S134; E] | 2025 review: the 2014 measures "haven't had the desired impact" [S138; E]; England is not in PISA financial literacy [S137; E] | E |
| Australia | No standalone subject; spread across learning areas, Foundation–Year 10; states decide [S151; C] | None set | 24 407 teachers in four years; 6 276 schools, 59 % [S268; A] (K9: the 2017 media release said over 32 000 and over 70 % [S59; C]; the report governs) | Not randomised: primary pupils making a budget 61 against 54 %, engaged against other schools [S268 p.9; A] | C |
| Ontario, Canada | Graduation requirement from 2026/27, pass mark 70 % [S61; C]; placed in Career Studies [S61; C], not Grade 10 mathematics [S156; E] (K30: ontario.ca governs) | None | None found | No results yet [S156; E] | E |

Mandatory status and measured outcome do not line up. Czechia has had the subject by law since 2013 and its 2022 level matches 2012 [S145; C]. Estonia scored 547 in 2018 [S53; C] with the topic inside a compulsory subject, not a subject of its own [S269 p.11; A]. The data cannot say why: the two comparisons with other schools, in Australia and the Netherlands, are non-randomised. Portugal has a legal duty, no prescribed hours found in the sources read, no budget line and an impact evaluation still being built.

## 7.2 What works, from the meta-analyses

Fernandes, Lynch and Netemeyer (2014) find that education explains 0,1 % of the variance in later financial behaviour, with effects negligible after about 20 months [S46; C]. This is the journal abstract; we did not re-read the paper, and the NBER working paper quotes the same authors at 0,44 % of the variance in financial knowledge [S266 p.18; E].

The school meta-analysis by Kaiser and Menkhoff (2020) covers 37 (quasi-)experiments. Knowledge rises by 0,33 standard deviations (SD) and behaviour by 0,07 SD. In the 18 randomised studies, knowledge rises by about 0,15 SD and behaviour by 0,07 SD. More intensive programmes work better, with diminishing returns [S157; C] (abstract). Their 2017 all-ages paper [S42; C] gave us no figures, so we use none.

Kaiser, Lusardi, Menkhoff and Urban (2022) pool 76 randomised trials and over 160 000 people [S44; E] (NBER version). Their random-effects estimate for behaviour is 0,1003 SD [S266 p.17; E]. K24: the paper says "at least three times" the earlier effect [S45; E], other texts "up to five times". The estimator explains it: random effects give about 5,5 times the Fernandes figure, a common-effect model 0,065 against 0,018, about 3,6 times [S266 p.16-17; E]. Effects fade: 0,0991 SD within six months, 0,071 SD after six months or more [S266 p.21; E]. After publication-bias correction a World Bank blog gives 0,057 SD for behaviour, at US$60 per participant on average and US$23 at the median [S171; E]. Its author calls the median cost poor value (opinion).

United States evidence on school mandates conflicts (K25, open). One study finds no effect of personal-finance mandates on financial outcomes, though extra mathematics helped [S163; C]. Another finds fewer defaults and higher credit scores at ages 18–21 [S164; C]. Both are abstracts; we do not settle the conflict by vote.

Evidence on just-in-time education is correlational: timing and frequency of education are positively associated with good behaviour in a 2015 US survey [S169; C] (abstract). A regulator's note lists "timely" information among five principles [S170; C]. We found no randomised test.

Automatic enrolment raised participation in one product. Madrian and Shea found participation "significantly higher under automatic enrollment" [S166; E]. In Great Britain 89 % of eligible employees, 21,7 million, saved into a workplace pension in 2024 [S168; C]. Opt-out among newly enrolled staff rose from 7,6 % (January 2020) to 10,4 % (August 2022) [S167; C]. This measures one product, not literacy, and the sources we read hold no like-for-like comparison of reach between defaults and education.

Critiques are arguments. Willis argues that the costs of literacy education likely outweigh its benefits [S160; E] (snippet) and that research does not establish a causal chain from education to better behaviour [S161; C].

In Portugal the controlled evaluations found cover a foundation programme, not the PNFF: a 2025 dissertation reports that more than 60 % of treated children improved, with no effect size [S104; E].

## 8. Behavioural and field hypotheses

Each hypothesis lists data for, data against, what is missing, and one verdict: *supported*, *contradicted on average* or *not measured*. A claim with several parts gets one verdict per part, and a part with figures on both sides is called mixed. Every verdict describes a group average in a survey or an official aggregate, never a person.

**H1. The young know least.** *For:* in 2023 the mean correct answers out of 10 were 3,7 at ages 16–17 and 6,0 at 18–24, against 7,5 at 25–39 [S242 p.57; A]. *Against:* the 70+ group scored 5,1 in 2023 [S242 p.57; A]. In 2020 the lowest median index was 70+ at 51,7, against 55,0 at 16–24 [S243 p.84; A]. PISA 2022 15-year-olds sit at the OECD level, 494 against 498 [S293; C]. *Missing:* confidence intervals by age band, and one wave-stable age profile. *Verdict: supported* for the 2023 knowledge test; the 2020 wave points elsewhere.

**H2. Women know less than men, as an average gap.** *For:* 6,1 against 6,9 correct answers [S242 p.57; A]; knowledge coefficient −6,47 in the regression [S242 p.75; A]; PISA 2022 girls 490, boys 498 [S293; C]; account ownership 88,17 % for women, 94,76 % for men, 2024 [S119; A]. *Against:* the global-index coefficient is a smaller −2,37 [S242 p.75; A], and the 2020 median index gap was 60,0 against 63,3 [S243 p.84; A]. *Missing:* gaps by item and by income band. Account ownership measures access, not knowledge. *Verdict: supported* as an average gap.

**H3. Schooling and income gradients.** *For:* mean correct answers were 3,8 with no schooling and 8,2 with higher education; 4,4 at household income up to 500 € and 8,0 above 2 500 € [S242 p.57; A]. *Against:* in the regression the income coefficient on the global index is 3,01, and 20,55 for higher

education against no schooling [S242 p.75; A]. The attitudes coefficient for the same income band has the opposite sign, −20,43 [S242 p.75; A]. *Missing:* the link between schooling, income and age, which move together. *Verdict: supported*.

**H4. Knowledge does not translate into behaviour.** *For:* Portugal ranks 21st on knowledge, 60,7 against 66,9 for the OECD-20 [S242 p.91; A], and 11th on behaviour, 65,6 against 61,6 [S242 p.90; A]. Between 2020 and 2023 knowledge rose from 56,6 to 60,1 while behaviour moved from 65,0 to 64,7 [S242 p.73; A]. *Against:* these are country and wave averages, not links inside persons. A Banco de Portugal study on knowledge and inflation expectations reached us as a snippet without figures [S112; E]. *Missing:* an individual-level test in Portuguese data. *Verdict: not measured*.

**H5. People rely on their bank's own information and rarely compare.** *For:* the institution's own information influenced 62,9 % of choices of the latest product, family and friends 58,1 %, comparison sites 8,6 % (multiple answers; the question changed between waves) [S242 p.53; A]. 44,1 % did not search or consider another option, up from 32,8 % in 2020 and 26,2 % in 2015 [S242 p.51-52; A]. About 69 % did not look at another bank's account in five years [S331; B]. *Against:* 40,3 % compared several institutions, against 20,0 % in 2020 [S242 p.52; A], and 77,3 % compared for personal or car credit [S242 p.52; A]. *Missing:* switching rates and what counted as a search. *Verdict: supported* for a large and rising minority.

**H6. School exposure is thin in practice.** *For:* 15 % of PISA 2022 students met money tasks in economics or business classes, the lowest of participants (OECD average 29, Netherlands 64) [S293; C]. In 2018 teachers were a money-information source for 43 % of 15-year-olds, parents for 95 % [S251; A]. *Against:* the subject is mandatory in at least two cycles [S256 p.12; A], and the 2025 contest drew 72 projects and 14 417 pupils [S258; A]. *Missing:* hours delivered per pupil, which no plan records. *Verdict: not measured*; the two exposure items point thin but are narrow.

**H7. Regional gaps.** *For:* the 2018 PISA mean was 483,1 in Alentejo and 481,0 in the islands (Azores and Madeira together), against 514,0 in Centro, 507,4 in Norte, 507,2 in the Lisbon metropolitan area and 493,7 in Algarve [S251 Table B.1; A]. More than 20 % of students scored below the sufficient level in Alentejo and in the islands [S250; A]. *Against:* the gap between Centro and Alentejo, 30,9 points, is about a third of the student-level standard deviation of about 90 points in each region (our arithmetic from the same table), and regional samples are small. The source links severe difficulties to grade retention, immigrant background, a disadvantaged background and parents' low education [S251 p.1; A]. Grade retention is 35 % in Alentejo and 34 % in the islands against 27 % nationally, but 37 % in Algarve, which scores higher [S251 Table B.1; A]: region and school history move together. The 2023 national report has no regional split. *Missing:* adult regional data and any 2022 regional result. *Verdict: not measured*.

**H8. Scam exposure rises with digital use.** *For:* in an EU survey of more than 26 000 adults, 24 % were tricked online (November 2025) [S184; C]. In 2023, 27,4 % of Portuguese adults were offline and 2,5 % opened an account or took credit fully online, against 31,1 % in the OECD [S303; C]. *Against:* the card-fraud rate was 0,018 % of payment value against 0,033 % in the EEA [S280; A]. Fraud complaints to the Banco de Portugal fell 31,91 % in 2024 [S273 p.64; A] and rose 45 % in 2025 [S335; B]; counts alone show no link with use. *Missing:* a Portuguese victimisation survey with a digital-use item. *Verdict: not measured*.

H9–H13 come from a member of the Mowei team as field observations and are tested here against the same data and, for H10, H12 and H13, against public datasets and reports read by an agent, and each verdict describes a group average in a survey or an official aggregate, never a person.

**H9. Spending centres on self-image goods: clothing, personal care and luxury items.** *For:* no row in the sources we read shows spending centred on clothing, personal care or luxury goods. The share who agreed that they weigh carefully whether they can afford a purchase fell from 83,6 % in 2020 to 70,9 % in 2023 [S303; C]; this is a stated attitude, not spending. *Against:* in the INE household budget survey 2022/23, housing, water, electricity, gas and other fuels took 39,3 % of an average annual household spend of 23 900 €, food and non-alcoholic beverages 12,9 % and transport 12,1 %, together 64,3 % [S404; C]. Everything else, clothing and personal care included, is therefore at most 35,7 %, below half. 85 % disagreed with an impulse-buying statement in 2023, against 77 % in 2020 [S303; C], also a stated attitude. *Missing:* a clothing and personal-care share of household spending, which the page read does not publish; an EU comparator. This does not test luxury goods inside those three groups. *Verdict: contradicted on average* for the share outside housing, food and transport.

**H10. Savings sit idle in current accounts or cash, and inflation erodes them.** *For:* 53,9 % of adults saved in the previous year in 2023 [S242 p.32; A]. Of those savers, 84,0 % left their savings in the current account, against 58,5 % in 2020 and 60,8 % in 2015 [S242 p.32; A]. In 2024, 75,4 % of household financial assets were deposits and 86,6 % of households were unwilling to take any financial risk with their savings [S313; B]. In 2023, 1,5 % of respondents aged 16+ held shares [S313; B]. Household overnight deposits paid 0,04 % in Portugal against 0,29 % in the euro area (August 2026, provisional) [S327; B]. On the Flash Eurobarometer 525 inflation item, 55 % answered correctly against 65 % in the EU [S24; D]. Annual average HICP inflation in Portugal was 8,1 % in 2022, 5,3 % in 2023, 2,7 % in 2024 and 2,2 % in 2025 [S408; C]; the average rate on outstanding household deposits with agreed maturity was 0,11 %, 1,67 %, 1,89 % and 1,09 % in December of those years [S409; C], below inflation in each year (December rate against annual-average inflation; gross of tax; overnight deposits and other assets are not in that series). *Against:* in the same chart of where savers keep their savings, 7,7 % named cash at home [S242 p.32; A]. Within the 75,4 % in deposits, savings accounts including certificates held 50,3 % of financial assets and sight accounts 25,1 %, and tradable assets held 13,5 % [S313; B]. In 2023, 34,2 % of respondents aged 16+ held a term deposit and 14,2 % *Certificados de Aforro* (state savings certificates) [S313; B]. Overnight deposits were 43,3 % of household deposits in Portugal against 55,6 % in the euro area (August 2026, provisional) [S327; B]. *Missing:* the real return on other assets and on overnight deposits over 2022 to 2025; cash held at home outside this survey item; the reasons savers give for the current account. *Verdict: supported* for savers who left savings in the current account in 2023, a share of savers, not of all adults; *contradicted on average* for cash at home; loss to inflation: *supported* for household deposits with agreed maturity, 2022-2025; *not measured* for other assets and for overnight deposits.

**H11. Planning gaps stem from low financial education, including not knowing what an emergency fund is.** *For:* the knowledge score was 60,7 against 66,9 for the OECD-20, 21st of 39 [S242 p.91; A]. In Flash Eurobarometer 525, 11 % [S337; B] of adults in Portugal reached a high literacy score, against 18 % [S25; C] in the EU27. The share with no emergency savings at all was 21 %, against 16 % in the EU27 (2023) [S313; B]. The share who agreed that they set savings goals and work to meet them fell from 48,3 % in 2020 to 36,8 % in 2023 [S303; C]. *Against:* the overall OECD/INFE score was 63,4 against 62,7 for the OECD-20 [S242 p.88; A], and the behaviour score 65,6 against 61,6 [S242 p.90; A]. In 2023, 82,1 % had at least one way to plan or control the household budget, against 80,8 % in 2020 [S303; C],

and 67,6 % could pay an expense equal to a month's income without borrowing [S242 p.13; A]. *Missing:* a survey item on whether adults know what an emergency fund is; having no emergency savings is not the same as not knowing the term. An individual-level test of whether education drives planning, as for H4. *Verdict: not measured* for the causal link and for knowing what an emergency fund is. For "very low" scores the sources report averages and shares, not a very low tier, so that part is *not measured*; on the measures behind C1 (§4.7) the verdict is *contradicted on average* on the overall score and *supported* for knowledge and the FL525 high-score share.

H12 and H13 rest on public datasets and regulator reports read by an agent on 10 November 2026 (SRIJ, Eurostat, WHO; grade C), not on the survey sources of the other hypotheses. Each claim still gets its own verdict.

**H12. Gambling is common.** *For:* online gambling gross gaming revenue was 337,6 million € in 4Q 2025 against 323,0 million € in 4Q 2024 (+4,5 %) [S405; C]. 1 222,8 thousand accounts placed at least one bet in 4Q 2025, and 4 929,9 thousand accounts were registered at 31 December 2025 [S405; C]. Casinos and slot halls took 69 846,88 thousand € in 4Q 2025 (printed in thousands of euros) [S405; C]. *Against:* none. *Missing:* the number of people who gamble and a Europe comparator. The regulator counts accounts, not people: one person may be registered with more than one operator, and it publishes no population share, so "very common" cannot be tested. *Verdict: not measured*; the rows above are context only.

**H13. Tobacco and alcohol use is common and above the European level.** *For:* alcohol per adult (15+) in 2024 was 13,7 litres of pure alcohol in Portugal against 8,9 for the WHO European Region, a WHO estimate that includes unrecorded alcohol [S407; C]; the comparator is a 53-state region, not the EU27. Recorded alcohol in Portugal in 2024 was 6,8 litres of pure alcohol from wine, 3,1 from beer and 1,7 from spirits per adult (15+) [S407; C]. Heavy episodic drinking at least weekly was 4,0 % in Portugal against 3,7 % in the EU27 in 2019 [S406; C]. *Against:* daily smokers were 14,2 % in Portugal against 19,3 % in the EU27 in 2019, and current smokers 17,0 % against 24,2 % [S406; C]. Heavy episodic drinking every month (but less than weekly) was 10,6 % against 14,8 % [S406; C]. *Missing:* an EU row for wine and beer, which was not read; a survey wave after 2019. The survey figures are self-reported, the age group "total" is taken as 15 and over, and the comparators differ, because "Europe" is not one comparator. *Verdict:* smoking: *contradicted on average* (14,2 % daily smokers against 19,3 %); alcohol per adult: *supported* against the WHO European Region (13,7 against 8,9 litres; not the EU27); wine and beer against Europe: *not measured*; heavy drinking: mixed (above the EU27 at least weekly, 4,0 against 3,7; below it monthly but less than weekly, 10,6 against 14,8).

## 9. Projections: scenarios, not forecasts

These scenarios describe what would have to hold and what would move. They are not predictions, and no scenario carries a point value. A range appears where a source gives one.

**Scenario A: the PNFF continues without an impact evaluation.** Assumptions: certified teacher training continues at the recent pace (12 teachers certified in one 25-hour course in 2025 [S258 p.14; A]); no numeric targets are set [S254]–[S257; A]; no controlled evaluation is built. Indicator: the CNSF survey scores. The restated index was 67,2 in 2015, 61,8 in 2020 and 62,7 in 2023 [S242 p.73; A], so expect drift, not a trend. Monitoring would still not allow impact evaluation

[S256 p.28-29; A], so no indicator would register an effect. The scenario fails if the next wave shows the knowledge sub-score (60,1 in 2023 [S242 p.73; A]) clearly above sampling error with no new programme to explain it.

**Scenario B: the PNFF 2026–2030 delivers its school dimension and its planned impact evaluation.** Assumptions: the dimension is taught in all years (per a government release; decree and strategy text not read, see 7.1); certified teacher training grows beyond 12 a year; the method built with SG REFORM and EUI [S257 p.17; A] reports results. Indicators and direction: knowledge rises more than behaviour. For school programmes the range is 0,15 to 0,33 SD on knowledge and about 0,07 SD on behaviour [S157; C], and behaviour effects fade, 0,0991 SD within six months against 0,071 SD later [S266 p.21; E]. Czechia shows that a mandate can leave PISA flat [S145; C]. A pupil tested in a 2029 cycle, if Portugal takes part, would have had at most four school years under the new rule (arithmetic from the 2025/26 start). The scenario fails if the evaluation finds a behaviour effect near zero, or if the next PISA financial-literacy result does not move.

**Scenario C: a default plus education.** This is an illustration, not a recommendation. Assumption: a default enrolment instrument exists beside school and adult education; no Portuguese default policy appears in the sources we read. Indicator and direction: participation and saving shares move more than literacy scores. Britain shows 89 % of eligible employees saving in 2024 [S168; C] and opt-out of 7,6 % to 10,4 % [S167; C], which are not Portuguese ranges. The scenario fails if participation does not rise, or opt-out is far above the British figures.

**Next measurements.** The Banco de Portugal and CNSF survey ran in 2010, 2015, 2020 and 2023 [S248; A] [S244; A] [S243; A] [S242; A], gaps of 5, 5 and 3 years (arithmetic). A fifth survey is planned for 2026 [S262 p.14; A]; no release date is in the sources we read. Portugal says it will take part in the OECD adult survey and in PISA [S257 p.17; A]. We found no PISA 2025 financial-literacy volume or Portuguese result [S32; E]; one snippet puts England's joining decision at the 2029 cycle [S137; E]. No successor to Flash Eurobarometer 525 (2023) is in the sources we read.

# 10. Measures

Each measure answers gaps M1–M11 (Table 4, §5.3). "Now" means action needing no new law; "2027" and "by 2030" follow the PNFF 2026–2030 horizon [S257; A]. Costs are qualitative: the sources we read hold no euro estimate for any measure, and none is invented.

## 10.1 Nine measures

**Table 8. Nine measures, each with mechanism, evidence, cost, risk, sequence and actor**

| Measure (gap) | Mechanism | Evidence | Cost | Risk | Sequence | Who acts |
|---|---|---|---|---|---|---|
| 1. Controlled evaluation of PNFF school work, numeric targets, published budget, hours per pupil (M10) | Targets and budget in each plan; hours logged; untreated comparison schools | No PNFF plan has numeric targets or a euro budget [S254]–[S257; A]; monitoring does not allow impact evaluation [S256 p.28-29; A]; method being built with SG REFORM and EUI [S257 p.17; A]; school meta-analysis: behaviour +0,07 SD [S157; C] | Staff and survey time | Null result; PNFF not separable from other change | Now: targets, budget. By 2030: results | State, CNSF, schools |

| Measure (gap) | Mechanism | Evidence | Cost | Risk | Sequence | Who acts |
|---|---|---|---|---|---|---|
| 2. Deposit-rate comparator; BdP price-list changes (M4) | Plain-language deposit comparison beside the fee comparator | Fee comparator only; AdC recommends a deposit one [S238; D]; BdP price lists to change by 2028, press report [S239; D]; new deposits ≤1 y pay 1,62 % vs euro area 2,13 % [S327; B]; 44,1 % did not search [S242; A] | Rate feed, upkeep | Little use away from the moment of choice | 2027; price lists 2028 | BdP, firms, AdC |
| 3. Debt counselling funded to match demand (M2) | Multi-year funding for RACE, DECO GAS, GOEC; PERSI and SisPACSE counts published | RACE about 10 thousand users since 2012, funding up to 400 000 € [S231; C]; DECO requests 29 154 (2019) [S232; D], about 20 000 in Jan–Sep 2024 and 2025 [S233, S235; D]; none of RACE/GAS/GOEC negotiates for the debtor (2018 source) [S230; D] | Recurring public funds | Demand unknown; advice without negotiating power | 2027 review; by 2030 funding | State, consumer bodies |
| 4. Scam-victim route; annual PT victimisation survey item (M3; C8) | One public route; incidence measured, not inferred from reports | Users bear 84,11 % of transfer-fraud losses [S335; B]; EBA/ECB chart: PT "below 80 %" for 2024 [S280; A] (K32, open); 40 % of online-fraud victims did not report (2022) [S331; C]; PT absent from OECD/INFE scam data [S292; C] | Item cheap; route needs staff | Loss-sharing is a legal matter outside this paper | Now: item. 2027: route | BdP/CNSF, payment providers, State |
| 5. Per-provider complaint rates with denominators, one format (M8) | Each regulator publishes complaints per 1 000 contracts, one definition | ERSE publishes no per-company counts or rates [S330; C]; BdP publishes per-unit rates [S301; B], e.g. mortgage 1,20, consumer credit 0,48 per 1 000 contracts [S301; B] | Reporting work | Ranking read as quality; gaming | 2027 | BdP, ASF, ANACOM, ERSE, DGC |
| 6. One complaint-routing guide (M1) | One public guide: pick the problem, get the body | EU27: 41 % of those who did nothing did not know how or where [S290; C]; PT: 61 % of those who acted went to the retailer vs EU 85 % [S290; C]; ASF closed 720 of 2 170 concluded complaints (33 %) administratively [S330; B] | Low | Goes stale | Now | DGC, consumer bodies, regulators, platforms |
| 7. Just-in-time education at product moments (M4, M6, M7) | Short explanation at the point of choice | ASF names three gaps: price-only choice, assumed quake cover, unknown rights [S299; C]; claims handling 62,5 % of insurers' Non-Life complaints [S312; B]; effect of timing studied in [S169; C] (judged in §7) | Low per screen | Skipped like a disclaimer; unproven in Portugal | 2027 | Firms, ASF, BdP, platforms |
| 8. Defaults where evidence supports them (M5) | Protective default or standard comparable offer | UK automatic enrolment [S167; C]; 401(k) inertia [S166; E]; US school mandates split (K25) [S163; C] vs [S164; C]; intermediated borrowers pay TAEG ~1,2 pp more, press report [S174; D]; independent-advice availability in PT *not measured* | Design, legal work | Paternalism; opt-outs | 2027 study; by 2030 rules | State, regulators, firms |

| Measure (gap) | Mechanism | Evidence | Cost | Risk | Sequence | Who acts |
|---|---|---|---|---|---|---|
| 9. Finfluencer supervision (M11) | Rule on education versus promotion; label; enforcement; prevalence survey | CMVM 2024: 33 active finfluencers, 32 with signs of advertising non-compliance, 28 with signs of illegal solicitation, press report [S206; D]; BdP: "não existe credenciação para entrega de conteúdos" [S210; D] | Staff time | Chills genuine education | 2027 | CMVM, BdP, platforms |

## 10.2 By actor

The State owns measures 1, 3 and 8. BdP and CNSF add the victimisation item at the next wave and keep the 2027 portal relaunch [S300; C] usable for the 27,4 % of adults offline [S303; C], so assisted channels stay (M9). Schools can report hours, not only projects: the 2025 Concurso counted 72 projects and 14 417 pupils [S258; A], which is participation, not dose. Regulators publish rates in one format and supervise finfluencers (2, 5, 9). Firms feed rates and place explanation at the point of sale (2, 7). Consumer bodies run counselling and the routing guide (3, 6). Platforms say how to complain, as only 34 % of EU comparison tools do [S220; C], and label promotion (6, 9).

## 10.3 Where Mowei fits

The evidence in §7.2 suggests pairing education with the moment of decision. That is where Mowei works: when a person compares a product, checks a cost or looks for where to complain. The evidence is correlational, and Mowei's own effect has not been measured. This section rests on a reading of Mowei's code as deployed [S351; C] and an HTTP status check of 15 of its pages on 9 November 2026, status only [S352; C].

**Offers.** Comparison of current and savings accounts, with coverage that is not exhaustive; about 84 calculators and simulators by our count, five of them announced but not yet built, among them 17 on tax, 11 on credit, 22 on savings and investing and 4 on debt; a public complaint guide with 13 problem types that names the *Livro de Reclamações* (official complaints book) and the sector bodies; 44 lessons in six blocks, in Portuguese and English [S351; C].

**Course.** 3 sample lessons and the educator packs are open; the full course and the diagnostic need an account, and sign-ups are closed today [S352; C]. The packs cover 31 of the 44 lessons [S351; C]. The complaint-letter wizard also needs an account [S352; C].

**Cannot do.** Mowei gives no investment, tax, legal or personalised advice, and is not a registered credit intermediary or insurance mediator [S351; C]. We found no debt-counselling or negotiation service among Mowei's tools [S351; C]. It files nothing for the user: the consumer files the complaint in the official channel [S351; C], as its complaint page says ("A reclamação é apresentada por si, nos canais oficiais") [S351; C].

**Impact.** No Mowei outcome has been measured. With accounts closed there is no user follow-up today (our inference). This paper does not claim that its tools improve knowledge, savings, complaints or switching.

**What would prove it helps.** Pre and post knowledge items aligned to the CNSF and OECD/INFE questions; a staggered opening of accounts could allow a randomised comparison; outcomes that matter (complaint resolution, switching, fee changes); privacy safeguards, a pre-registered plan, and publication of results whatever they show.

**Against M1–M11.** Partial tooling for M1 (route guide), M2 (the 4 debt tools calculate; they add no counselling capacity), M4 (the 3-fee calculator) and M6 (17 tax tools) [S351; C]. The public complaint guide is an existing example of the guide that measure 6 describes: it takes a problem and names the body to go to [S351; C]. Account comparison is partial tooling for M4 and sits beside measure 2 [S351; C]. Partial for M7: an insurance price comparison, "apenas informativa", whose "desde" price is the insurer's minimum, not the user's [S351; C]. Not M8: a per-provider trust score from 11 public sources exists [S351; C], but a score is not a complaint rate with a denominator. Mowei has nothing for M3, M5 or M10, and we found nothing aimed at M9 or M11 [S351; C].

**Conflict of interest.** Mowei, the publisher, runs comparison and education tools discussed here. Mowei states that, as of 6 November 2026, no provider, partner or advertiser pays it [S351; C]. Paid features exist in code but are switched off.

## 11. Limitations and open conflicts

**Instruments differ.** The CNSF index covers 16+, OECD/INFE 18+, PISA 15-year-olds, and Flash Eurobarometer 525 (FL525) is an online survey. The CNSF 16+ index and the OECD-20 average both read 62,7 [S242 p.72, p.88; A], but they are different objects. The 2010 wave used another method (58,01) and is not comparable [S248; A].

**Retrieval gaps.** The OECD/INFE reports, PISA 2022 Volume IV, the FL525 annex, the BdP *Relatório de Supervisão Comportamental* 2025 (RSC 2025), and ASF and CMVM sources were not read at source; some sites refused automated access and were not bypassed. A retry on 2026-11-09 for this version found the same: the RSC 2025 page returned 403, the ASF site an image-code check, and the Eurobarometer, CMVM and *Diário da República* pages returned empty pages to our reader. A gap leaves a claim open, not false.

**Complaints and social data.** Complaints are self-selected and counted in different units. Social topic shares are model-coded labels (E) and skew to people who write online. The triage control had N = 40 (recall 13/14, precision about 45 %) [S371; C]. Group differences are hypotheses, not facts about individuals.

**Mowei.** Its capability is a code read and an HTTP status check, not an outcome measure [S351; C], [S352; C].

**Conflicts still open.**

**Table 9. Conflicts still open**

| K | Item | Values | Status |
|---|---|---|---|
| K2 | BdP consumer-credit complaints "2025" | 5 528 [S63; D] vs 6 134, "+11%" [S64, S388; D] | Narrowed: 5 528 is the 2024 count [S273 p.65; A]; 6 134 is the probable 2025 count; open until RSC 2025 is read |
| K4 | FL525 PT "medium" and "low" bands | 71 % [S24; D] vs about 61 % implied by 28 % [S97; E] and 11 % [S337; B]; 28 % may be the low share on the knowledge component [S381; D] | Open; no PT low or medium overall share used |
| K5 | Saved in previous year, 2023 | 53,9 % [S242 p.32; A] vs 54,8 % [S3; D] | 53,9 % kept; 54,8 % not found in CNSF report |

| K | Item | Values | Status |
|---|---|---|---|
| K10 | OECD/INFE 2020 PT knowledge rank | 16th [S9; D], [S247; A] vs 17th [S8; D], [S243 p.98; A] | Open |
| K13 | PARI 2025 | about 235 thousand procedures a month [S323; B] vs 801 780 contracts [S236; D] | Open; different units |
| K16 | Payee-confirmation savings | 6,5 M€ vs 65 M€ [S87; D] | Open; BdP source not read |
| K17 | ASF complaints lodged at ASF, 2025 | 2 945 [S331; B] vs about 2 925 [S72; E], [S71; D] | Small gap, open |
| K18 | Livro eletrónico 2025 | 224 166 (DGC) vs 230 543 (platform) [S330; C] | Open |
| K19 | GOEC founding year | 2006 [S229; D] vs 2009 [S228; D] | Open |
| K22 | Euro-area average, BdP slide | 63,4, equal to PT's value [S331; D] | Open until BdP Boletim of March 2026 is read |
| K25 | US school mandates | no effect [S163; C] vs fewer defaults [S164; C] | Open |
| K27 | BdP 2025 irregularity share | 6,3 % "of complaints" [S63; D] vs "of closed complaints" [S64; D], [S172; E] | Narrowed: the fuller press wording uses the RSC 2024 base (closed complaints); open until RSC 2025 is read |
| K32 | PT users' share of transfer-fraud losses | 84,11 % (2023–25) [S335; B] vs "below 80 %" (2024) [S280; A] | Open; periods, bases may differ |
| K21 | PT "high 16 %" | 16 % is PT's high share on the knowledge component, not the overall score [S381; D] | Settled at press level; the overall 11 % [S337; B] is used |
| K34 (new) | CNSF founding year | 2007 (our brief, no source) vs Decreto-Lei n.º 228/2000 (search record) [S403; E] | Open; act not read; no year printed |
| K35 (new) | FL525 PT lowest in the EU | Facts-database row [S337; B] and press [S381; D] agree | Open until the per-country annex is read |
| K33 (new) | BdP 2024 irregularity share | 12 % of closed complaints [S273 p.71; A] vs 13,8 % in a search summary [S389; E] | Open; the (A) value is used |
| G5 | Legal basis of "mandatory in all years from 2025/26" | Government release [S394; C]; ENEC 2025 / RCM 127/2025 and DL 113/2025 [S397, S398; E] | Partly settled: the rule is official; the text and hours were not read |

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[S238] Observador/Lusa on AdC study — 20 Jul 2026. https://observador.pt/2026/07/20/autoridade-da-concorrencia-sugere-criacao-de-comparador-de-remuneracoes-de-depositos-pagas-pelos-bancos/. Label (D).

[S239] ECO on BdP report — 12 May 2026. https://eco.sapo.pt/2026/05/12/precarios-dos-bancos-vao-mudar-para-facilitar-comparacao-com-concorrencia/. Label (D).

[S242] Conselho Nacional de Supervisores Financeiros, Relatório do 4.º Inquérito à Literacia Financeira da População Portuguesa 2023 (abril 2024) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2024-04/relatorio4ilf2023.pdf. Label (A).

[S243] Conselho Nacional de Supervisores Financeiros, Relatório do 3.º Inquérito à Literacia Financeira da População Portuguesa 2020 (Lisboa, 2021) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2021-06/relatorio3inqlf.pdf. Label (A).

[S244] Conselho Nacional de Supervisores Financeiros, Relatório do Inquérito à Literacia Financeira da População Portuguesa 2015 (Lisboa, 2016) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/SiteCollectionDocuments/Relatorio2InqueritoLiteraciaFinanceira.pdf. Label (A).

[S245] Conselho Nacional de Supervisores Financeiros, Síntese dos Resultados do 2.º Inquérito à Literacia Financeira (Lisboa, outubro 2016) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/SiteCollectionDocuments/SinteseResultados2InqueritoLiteraciaFinanceira.pdf. Label (A).

[S246] Banco de Portugal, Síntese do Inquérito à Literacia Financeira da População Portuguesa 2010 — clientebancario.bportugal.pt. Label (A).

[S247] Banco de Portugal / CNSF, nota de imprensa «Portugal em 7º lugar no inquérito internacional à literacia financeira dos adultos 2020 da OCDE/INFE» (25 de junho) — bportugal.pt. Label (A).

[S248] Banco de Portugal, Apresentação do Inquérito à Literacia Financeira da População Portuguesa 2010 (1.ª Conferência do Banco de Portugal sobre Literacia Financeira, 8 de novembro de 2011) — clientebancario.bportugal.pt. https://clientebancario.bportugal.pt/sites/default/files/relacionados/noticia/ApresentacaoInqueritoLiteraciaFinanceira.pdf. Label (A).

[S250] Banco de Portugal, Revista de Estudos Económicos, Volume VIII, n.º 2 (Lisboa, 2022) — www.bportugal.pt. https://www.bportugal.pt/sites/default/files/anexos/pdf-boletim/reev8n2_p.pdf. Label (A).

[S251] Banco de Portugal, Financial literacy of 15 years-old in Portugal: Evidence from PISA 2018 (April 2022) — www.bportugal.pt. https://www.bportugal.pt/sites/default/files/anexos/papers/re202205_en.pdf. Label (A).

[S252] Global Financial Literacy Excellence Center (GFLEC), A Global Perspective on Financial Literacy (presentation, 2015 IOSCO STP Investor Education and Protection: The Major Challenges Ahead) — gflec.org. https://gflec.org/wp-content/uploads/2015/11/IOSCO-Presentation-Lusardi.pdf. Label (E).

[S253] European Central Bank, Household Finance and Consumption Survey: Results from the 2023 wave, Statistics Paper Series No 53 — www.ecb.europa.eu. https://www.ecb.europa.eu/pub/pdf/scpsps/ecb.sps53.en.pdf. Label (A).

[S254] Banco de Portugal, Comissão do Mercado de Valores Mobiliários and Autoridade de Supervisão de Seguros e Fundos de Pensões, Plano Nacional de Formação Financeira 2011-2015 (2.ª edição atualizada, outubro 2015) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/SiteCollectionDocuments/PlanoNacionaldeFormacaoFinanceira.pdf. Label (A).

[S255] Banco de Portugal, Comissão do Mercado de Valores Mobiliários and Autoridade de Supervisão de Seguros e Fundos de Pensões, Plano Nacional de Formação Financeira 2016-2020 (1.ª reedição, junho 2016) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2018-05/pnff16-20.pdf. Label (A).

[S256] Conselho Nacional de Supervisores Financeiros, Plano Nacional de Formação Financeira 2021-2025: Linhas de Orientação (1.ª reedição, fevereiro 2022) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2022-02/plano_nacional_de_formacao_financeira_2021-2025.pdf. Label (A).

[S257] Conselho Nacional de Supervisores Financeiros, Plano Nacional de Formação Financeira 2026–2030 (março 2026) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/taxonomy_file/plano_nacional_de_formacao_financeira_2026-2030.pdf. Label (A).

[S258] Conselho Nacional de Supervisores Financeiros, Plano Nacional de Formação Financeira, Relatório de Atividades 2025 (fevereiro 2026) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/taxonomy_file/relatorio_atividades_pnff_2025.pdf. Label (A).

[S259] Conselho Nacional de Supervisores Financeiros, Plano Nacional de Formação Financeira, Relatório de Atividades 2024 (abril 2025) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2026-01/pnff_relatorioatividades2024.pdf. Label (A).

[S260] Conselho Nacional de Supervisores Financeiros, Plano Nacional de Formação Financeira, Relatório de Atividades 2023 (maio 2024) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2026-01/pnff_relatorioatividades2023.pdf. Label (A).

[S261] Conselho Nacional de Supervisores Financeiros, Plano Nacional de Formação Financeira, Relatório de Atividades 2020 (Lisboa, 2021) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2021-04/relatorioatpnff2020.pdf. Label (A).

[S262] Plano Nacional de Formação Financeira, Plano de Atividades 2026 (eixos estratégicos do PNFF 2026-2030) — www.todoscontam.pt. https://www.todoscontam.pt/sites/default/files/2026-03/plano_atividades_pnff_2026.pdf. Label (A).

[S263] Referencial de Educação Financeira para a Educação Pré-Escolar, o Ensino Básico, o Ensino Secundário e a Educação e Formação de Adultos — www.todoscontam.pt. Label (A).

[S264] Banco de Portugal, Comissão do Mercado de Valores Mobiliários and Instituto de Seguros de Portugal, Plano Nacional de Formação Financeira: Princípios Orientadores das Iniciativas de Formação Financeira — www.dge.mec.pt. https://www.dge.mec.pt/sites/default/files/ficheiros/principorient_pnff.pdf. Label (A).

[S266] National Bureau of Economic Research, Working Paper 27057, Financial Education Affects Financial Knowledge and Downstream Behaviors (April 2020) — www.nber.org. https://www.nber.org/papers/w27057.pdf. Label (E).

[S268] ASIC, Report 554: Independent evaluation of ASIC's MoneySmart Teaching Program (December 2017) — download.asic.gov.au. https://download.asic.gov.au/media/4563536/rep554-published-4-december-2017.pdf. Label (A).

[S269] Money Smart Estonia, Strategy for developing the financial wisdom of the inhabitants of Estonia for 2021-2030 (Tallinn, 2021) — www.fin.ee. https://www.fin.ee/sites/default/files/documents/2023-07/Strategy_for_Developing_Financial_Wisdom_in_Estonia_2021%E2%80%932030.pdf. Label (A).

[S270] Wijzer in geldzaken, Effectiviteitsonderzoek naar lesmateriaal Wijzer in geldzaken voor groep 7 (2017) — www.wijzeringeldzaken.nl. https://www.wijzeringeldzaken.nl/bibliotheek/media/pdf/effectiviteitsonderzoek-lesmateriaal-2017.pdf. Label (C).

[S271] Wijzer in geldzaken, Jaarplan 2025 — www.wijzeringeldzaken.nl. https://www.wijzeringeldzaken.nl/platform-wijzeringeldzaken/publicaties/jaarplan-2025-wijzer-in-geldzaken.pdf. Label (C).

[S272] Tweede Kamer der Staten-Generaal, Kamerstuk 36 699, vergaderjaar 2024–2025: Wijziging van de Wet op het primair onderwijs, … (Wet herziening wettelijke grondslagen kerndoelen) — zoek.officielebekendmakingen.nl. https://zoek.officielebekendmakingen.nl/kst-36699-6.pdf. Label (A).

[S273] Banco de Portugal, Relatório de Supervisão Comportamental 2024 (abril 2025) — www.bportugal.pt. https://www.bportugal.pt/sites/default/files/documents/2025-04/rsc_2024_pt.pdf. Label (A).

[S274] Banco de Portugal, Relatório de Supervisão Comportamental 2023 (março 2024) — www.bportugal.pt. https://www.bportugal.pt/sites/default/files/documents/2024-04/rsc_2023_pt.pdf. Label (A).

[S275] Banco de Portugal, Relatório de Supervisão Comportamental 2022 (março 2023) — www.bportugal.pt. https://www.bportugal.pt/sites/default/files/anexos/pdf-boletim/rsc_2022_pt.pdf. Label (A).

[S277] ERSE, Boletim do Apoio ao Consumidor de Energia (ACE), outubro 2026 — www.erse.pt. https://www.erse.pt/media/afsllfk0/boletim_ace_outubro_2026.pdf. Label (A).

[S278] ERSE, Boletim do Apoio ao Consumidor de Energia (ACE), julho 2026 — www.erse.pt. https://www.erse.pt/media/tgyhtm4w/boletim_ace_julho_2026.pdf. Label (A).

[S280] European Banking Authority and European Central Bank, 2025 Report on Payment Fraud (EBA/REP/2025/40, December 2025) — www.ecb.europa.eu. https://www.ecb.europa.eu/press/intro/publications/pdf/ecb.ebaecb202512.en.pdf. Label (A).

[S281] European Banking Authority and European Central Bank, 2024 Report on Payment Fraud — www.ecb.europa.eu. https://www.ecb.europa.eu/press/intro/publications/pdf/ecb.ebaecb202408.en.pdf. Label (A).

[S284] Ministério Público, Gabinete Cibercrime, Denúncias de cibercrime 2025 — cibercrime.ministeriopublico.pt. https://cibercrime.ministeriopublico.pt/sites/default/files/2026-02/2026.02.11-denuncias-de-cibercrime-2025.pdf. Label (A).

[S286] European Commission, Directorate-General for Justice and Consumers, Consumer Conditions Scoreboard, 2025 Edition (March 2025) — commission.europa.eu. https://commission.europa.eu/document/download/2816337b-4fd1-4db2-a71c-d14a206a5a93_en?filename=consumer_conditions_scoreboard_2025_final.pdf. Label (A).

[S290] EC Consumer Conditions Survey 2025 edition (n~1000 per country). Label (C).

[S292] OECD, OECD/INFE 2023 International Survey of Adult Financial Literacy (2023). Label (C).

[S293] OECD, PISA 2022 Results Volume IV (2024), chapter 1 quoting OECD/INFE 2023 survey; note the report warns the comparison with PISA is indicative (different tools). Label (C).

[S299] EIOPA Eurobarometer 2025 as quoted in ASF RRSCM 2025. Label (C) (label of the figures cited; source-map label D).

[S300] Banco de Portugal, Literacia Financeira e Fraude Digital (public talk, 13 maio 2026, Ponta Delgada), slide Plano Estratégico 26-30. Label (C).

[S301] BdP RSC 2025 Quadro II.2.1 (institutions with 10+ complaints; full year only). Label (B) (label of the figures cited; source-map label D).

[S303] CNSF/Banco de Portugal, Relatório do 4.º Inquérito à Literacia Financeira da População Portuguesa 2023 (abr 2024), cap. I.1.2-1.3 (fieldwork Eurosondagem). Label (C).

[S308] Aximage poll 'As taxas bancarias no contexto da preferencia pelos bancos e da satisfacao com o servico prestado', published via ERC. Label (C).

[S309] DGPJ SIEJ (crimes registados pelas autoridades policiais); counts crimes, not victims. Label (C).

[S312] ASF RRSCM 2025, Quadro 13 (62.5% computed from printed counts). Label (B).

[S313] Mixed group of rows: INE/Banco de Portugal Inquérito à Situação Financeira das Famílias (ISFF) 2024, corrected release (household debt, wealth, deposits and risk attitudes); Banco de Portugal financial literacy survey 2023 (saving, term deposits, Certificados de Aforro, shares); an EU survey of March–April 2023 whose title the evidence file does not record (emergency savings, Portugal against the EU27); Eurostat and EU-SILC rows. Label (B) (label of the figures cited; source-map label C).

[S323] Banco de Portugal, RAMC 2025. Label (B).

[S326] INE/Banco de Portugal, ISFF 2024 (corrected republication 2026-08-05). Label (B).

[S327] Mixed group of rows: ECB MFI interest rate statistics (MIR), ECB balance sheet items statistics (BSI) and consolidated banking data (CBD2), Eurostat and EIOPA rows; figures computed by us from the published series. Label (B) (label of the figures cited; source-map label C).

[S330] Complaints findings (ranked topics per source; what is missing). Mowei internal file, not public. Label: per figure (B(C)(D); source-map label C).

[S331] Mowei facts DB rows (mixed groups). The main public sources behind these rows are Banco de Portugal, Literacia Financeira e Fraude Digital (13 maio 2026); European Commission, Flash Eurobarometer 525 (online survey) with Eurostat ilc_mdes04; Autoridade da Concorrência, articles on mobility barriers in retail banking. Mowei internal file, not public. Label: per figure (B(C)(D); source-map label D). Group of facts-database rows: each figure carries its row label, listed in the verification table, available on request with the data file.

[S335] Mowei facts DB rows on fraud and financial literacy. The rows rest on the Banco de Portugal public talk Literacia Financeira e Fraude Digital (13 May 2026), which cites the Relatório de Supervisão Comportamental 2025 and the Boletim Económico (March 2026); a few rows pass on OECD figures (PISA 2022 and OECD 2025) as cited there (secondary). Mowei internal file, not public. Label (B) (label of the figures cited; source-map label D).

**[S336]** Mowei facts DB rows on credit and banks. The main public sources are Autoridade da Concorrência, study on banking mobility (survey of 1,100 adults, continental PT, 31 Oct-17 Nov 2025; 20 Jul 2026); Banco de Portugal, RAMC 2025; ECB MIR series L22, via Banco de Portugal; Banco de Portugal macroprudential recommendation. Mowei internal file, not public. Label (B) (label of the figures cited; source-map label D).

**[S337]** Mowei facts DB rows on financial literacy in the EU. The source is European Commission, Flash Eurobarometer 525 (2023), with Eurostat ilc_mdes04; row: "Respondents with HIGH overall financial literacy; PT shares lowest in EU with Latvia". Mowei internal file, not public. Label (B).

**[S341]** Mowei facts DB rows on interest rates and volumes. The main public source is the European Central Bank, MFI interest rate statistics (MIR), new business series A2B, A2C, A2Z and A2Z1 and the matching volumes, plus the ECB FM dataset. Mowei internal file, not public. Label (B) (label of the figures cited; source-map label D).

**[S351]** Mowei capability sheet (code read at deployed commit). Mowei internal file, not public. Label (C) (internal Mowei file; label rule in §2.3).

**[S352]** Mowei live-status check of 15 routes, 2026-11-09 (HTTP status only). Mowei internal file, not public. Label (C) (internal Mowei file; label rule in §2.3).

**[S355]** Social media and forum signal (aggregate counts, model-coded). Mowei internal file, not public. Label (E).

**[S361]** Complaints addendum 2026-10-22. Mowei internal file, not public. Label (E).

**[S362]** Complaints table citing an Observador opinion piece (vote itself not checked at Parlamento). Mowei internal file, not public. Label (E).

**[S363]** Reddit answer-gaps analysis. Mowei internal file, not public. Label (E).

**[S369]** 6000 coded posts (stated only; model coding, kappa 0,96 for age). Mowei internal file, not public. Label (E).

**[S371]** Archive scan method and counts. Mowei internal file, not public. Label (C) (internal Mowei file; label rule in §2.3).

**[S374]** ASF, consumidor.asf.com.pt/pt/descodificador. Label (C).

**[S380]** Eurobarometer survey reveals low levels of financial literacy across the EU (2023-07-18) — European Commission DG FISMA. https://finance.ec.europa.eu/news/eurobarometer-survey-reveals-low-levels-financial-literacy-across-eu-2023-07-18_en. Label (C).

**[S381]** How financially literate are Europeans? Not very (2024-04-24) — Euronews. https://www.euronews.com/business/2024/04/24/how-financially-literate-are-europeans-not-very-it-turns-out-but-who-knows-the-most. Label (D).

**[S383]** Eurobarometer poll: Low levels of financial literacy across the EU — Sofia Globe. https://sofiaglobe.com/?p=114239. Label (D).

**[S386]** Search summary (query 2026-11-09) on FL525 country range — several press pages; no single URL. Label (E).

**[S388]** Banco de Portugal anuncia que instituições financeiras devolveram 8,9 milhões de euros a clientes em 2025 — Dinheiro Vivo (same article as [S64]). https://dinheirovivo.dn.pt/economia/banco-de-portugal-anuncia-que-instituies-financeiras-devolveram-89-milhes-de-euros-a-clientes-em-2025. Label (D).

**[S389]** Search summary (query 2026-11-09) on BdP RSC 2025 press coverage; no single URL. Label (E).

**[S394]** Cidadania: 2.ª edição de aulas de Literacia Financeira em escolas de todo o país — Governo de Portugal. https://portugal.gov.pt/pt/gc25/comunicacao/comunicados/cidadania-2-edicao-de-aulas-de-literacia-financeira-em-escolas-de-todo-o-pais. Label (C).

**[S397]** Search summary on Decreto-Lei n.º 113/2025 (DRE page blank to fetcher). https://diariodarepublica.pt/dr/detalhe/decreto-lei/113-2025-941702851. Label (E).

**[S398]** Search summary on ENEC 2025 (RCM 127/2025; PDF not opened). https://www.dge.mec.pt/sites/default/files/Curriculo/enec_2025.pdf. Label (E).

**[S403]** Search record of the *Diário da República* consolidated page "Cria o Conselho Nacional de Supervisores Financeiros", Decreto-Lei n.º 228/2000 (page body empty to the fetcher; act text not read). https://diariodarepublica.pt/dr/legislacao-consolidada/decreto-lei/2000-73610581. Label (E).

[S404] Instituto Nacional de Estatística (INE), Revista Eletrónica do INE, August 2024, p. 40, article Orçamentos Familiares – Inquérito às Despesas das Famílias 2022/2023 (household budget survey), https://www.ine.pt/ine_novidades/semin/INEWS60/78-79/. Label (C) (official page read by an agent 2026-11-09; the INE table was not opened, so not A). Figures: housing 39,3 %, food 12,9 %, transport 12,1 %, average annual spend 23 900 €.

[S405] Serviço de Regulação e Inspeção de Jogos (SRIJ), Turismo de Portugal: (a) Relatório 4.º trimestre 2024, Registo da atividade de jogo online em Portugal, p. 4, https://srij.turismodeportugal.pt/sites/default/files/2025-03/estatisticas_online_4t_2024.pdf; (b) Relatório 4.º trimestre 2025, Registo da atividade de jogo online em Portugal, pp. 3-4 (gross gaming revenue and +4,5 %), p. 8 (registrations), p. 10 (accounts with a bet), https://srij.turismodeportugal.pt/sites/default/files/2026-03/estatisticas_online_4t_2025.pdf; (c) 4.º Trimestre 2025, Atividade do Jogo em Portugal: em casinos, sala de máquinas e de bingo, p. 2, https://srij.turismodeportugal.pt/sites/default/files/2026-03/Estat%C3%ADstica_territorial_4T_2025.pdf. Label (C) (official reports read by an agent 2026-11-10; accounts, not people).

[S406] Eurostat, European Health Interview Survey (EHIS) 2019: (a) hlth_ehis_sk1e, Smoking of tobacco products by sex, age and educational attainment level (daily and current smokers, total); (b) hlth_ehis_al3e, Frequency of heavy episodic drinking by sex, age and educational attainment level (at least weekly, every month; total). https://ec.europa.eu/eurostat/api/dissemination/statistics/1.0/data/hlth_ehis_sk1e and .../hlth_ehis_al3e. Label (C) (datasets read by an agent 2026-11-10; self-reported).

[S407] World Health Organization, Global Health Observatory, 2024 (three-year averages): (a) SA_0000001688, Alcohol, total per capita (15+) consumption (in litres of pure alcohol) (SDG Indicator 3.5.2), Portugal and WHO European Region; (b) SA_0000001400, Alcohol, recorded per capita (15+) consumption, by beverage type, Portugal. https://ghoapi.azureedge.net/api/SA_0000001688 and https://ghoapi.azureedge.net/api/SA_0000001400. Label (C) (datasets read by an agent 2026-11-10; the WHO European Region has 53 states).

[S408] Eurostat, HICP: indices and rates of change, annual data, prc_hicp_ainr (all items, annual average rate of change), Portugal, 2022-2025. https://ec.europa.eu/eurostat/api/dissemination/statistics/1.0/data/prc_hicp_ainr. Label (C) (dataset read by an agent 2026-11-10).

[S409] Banco de Portugal, BPstat: series 12519720, interest rate on deposits with agreed maturity, individuals, outstanding amounts, and series 12519807, the same instrument, new business, December 2022-2025. https://bpstat.bportugal.pt/data/v1/series/?series_ids=12519720 and ...=12519807. Label (C) (datasets read by an agent 2026-11-10; gross of tax; overnight deposits not included; only the outstanding series is used in the text).

# Appendix A. Methods and evidence grades

**How the evidence was gathered.** The paper rests on a single numbered evidence list kept by the writing team ([S#], numbered as in that list, with gaps where a source was consulted and not cited) and on the data file data-financial-education.csv, which holds every value behind the tables and charts with its section, source id and grade, and which is available on request together with a verification table that lists, for every figure, its source, its grade and what was done to check it. Section 2 describes the archive scan and its triage, what the triage model never saw, what was read at source with page numbers, the complaint data and its biases, and how the social corpus was counted. Where a figure comes from Mowei's cross-checked database of official statistics rather than from the primary page, the grade says so.

**How it was checked.** Each figure was traced to its source. Where an official PDF could be read, the figure was compared with the value printed there and the page number is given in the tag; of 376 web figures re-checked against official PDFs, 129 matched, 10 did not and 237 were not found in the PDFs that could be read (§2.3). Not found means open, not false. Where a press figure and the official PDF disagree, the PDF figure is used and the press item keeps its own grade. Open conflicts between sources are listed in §11 with their status; none is settled by vote.

**What "computed" means.** A value marked computed, or "our arithmetic", is a share, a difference or a product of figures from the cited sources, with the inputs stated in the text or in the data file, so that any reader can reproduce it. A computed value is only as good as its inputs and takes their grade.

**Retrieval gaps.** A failed fetch (an HTTP 403, an image-code challenge, a page that returns an empty shell) is a retrieval gap, not a finding about the source. The paper keeps the earlier reading and its grade, says that the source was not read, and lists the item as open. No site that refused automated access was bypassed.

**The three verdicts.** Public claims (C1–C11) and the hypotheses of §8 are tested against the data and receive one of three verdicts: *supported* (the data point the same way as the claim), *contradicted on average* (the national data point the other way, although the claim may hold for some groups) or *not measured* (the data needed do not exist in the sources we read; the claim is open, not false). Statements about groups of people are hypotheses with data for and against them, never facts about individuals.

**Evidence grades.** Every source tag carries a grade code in the form [S#; code], or [S# p.N; code] where a page of an official PDF was read. The codes mean:

| Code | Meaning |
|---|---|
| A | Read at the official source in this run (official PDF with page number, official API or official page) |
| B | Official statistic taken from Mowei's sourced facts database |
| C | Official page, or an archived official document, read by an agent |
| D | Press report or law firm |
| E | Working paper, search-result snippet, or Mowei's own scrape or model-coded corpus (social-media coding) |

Each source keeps one grade in the text, the charts and the reference list, with two exceptions and one stated rule. The exceptions are the two compiled groups S330 (complaints findings) and S331 (facts-database rows), whose figures carry their own figure or row grades, listed in the verification table. The rule concerns three internal Mowei files read by the team, the capability sheet [S351], the live-status check [S352] and the archive-scan counts [S371]: they carry C, and for these files C means an internal file read by the team, not an official page (§2.3). A combined code such as C/E means that the figure draws on sources of both grades. A grade never claims more than what was done: a press item stays D even when a PDF later confirmed one of its figures; the figure then cites the PDF and takes A.

**AI assistance and independent checking.** Drafting of this paper used AI language models under a written protocol: a drafting stage produced the text from the evidence record, and a triage model (Jev) sorted archive candidates by topic, as §2.1 and §2.2 describe, without ever seeing Mowei's own content. A reviewer from a different AI model family checked the text against the sources, re-reading the sources it could reach and recomputing the arithmetic; items that no stage could reach are marked as not read and listed as open. The cross-family review of the first draft ran on 2026-11-09 and confirmed 20 findings, none high; all 20 were fixed against their source pages. A final gate by a reviewer from another AI model family confirmed the 20 fixes and listed nine new findings, one medium; all nine were applied. The protocol fixes what each stage may change and requires every change that touches a figure, a date, a source tag or a verdict to be logged. The text is edited for publication by the company, which is responsible for its content. LusoAnalytica, Lda · Mowei.pt · press@mowei.pt.