DIGITAL FINANCIAL LITERACY IN PORTUGAL

Relevance, Evidence and Provision

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Foreword

This report provides evidence and analysis for the design of a digital financial literacy strategy in Portugal. It describes recent trends in financial digitalisation in Portugal and maps the relevant stakeholders and initiatives in relation to digital financial literacy in the country. It also presents the results of a survey to measure the digital financial literacy of the Portuguese population.

This work is the result of the cooperation between the Banco de Portugal - which has requested support from the European Commission under the Technical Support Instrument 2021- the European Commission and the OECD, designated as implementing partner of the Project. This report represents the first output within the Project, that is a mapping study of digital financial education in Portugal (Output 1). It built upon a number of activities, including the design and implementation of a stocktaking survey to understand current levels of digital financial education provision and activities in the country, as well as the design and implementation of a survey to measure the digital financial literacy of the Portuguese population. Other outputs include the development of a strategy for digital financial literacy, including a high-level document and a roadmap for implementation (Output 2), as well as the organisation of an event for the dissemination of the digital financial literacy strategy (Output 3).

The overall Project is expected to increase individual awareness, skills and understanding, and support informed decisions about the wide range of digital financial products and services existing on the market. The Project is expected to empower people to use digital financial products and services and make safe use of them. It is expected to contribute to making people in Portugal more resilient to online fraud attempts and cybersecurity attacks and more aware of behavioural biases when accessing financial products and services through digital channels. The Project also aims to combat (digital) financial exclusion by empowering people to adopt greater use of digital financial products and services. Finally, the project is also expected to benefit the Portuguese financial system as a whole by improving trust and confidence in digital tools and digital financial services.

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The report benefitted considerably from the support, input and review offered by Maria Lúcia Leitão, Head of the Banking Conduct Supervision Department, Susana Narciso, Head of the Market Monitoring and Financial Education Division, and Maria Carolina Campos, Coordinator in the Market Monitoring and Financial Education Division, from the Banco de Portugal, and from the contribution of the European Commission's DG REFORM.

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The European Commission's Directorate General for Structural Reform Support (DG REFORM) provides support for the preparation and implementation of growth-enhancing administrative and structural reforms by mobilising EU funds and technical expertise, in accordance with the criteria and principles referred to in Article 7(2) of the Regulation (EU) 2017/825. For additional information, please see: https://ec.europa.eu/info/funding-tenders/funding-opportunities/funding-programmes/overview-funding-programmes/structural-reform-support-programme-srsp_en

The OECD started its financial literacy project in 2002 and established the OECD International Network on Financial Education[1] in 2008. It is globally acknowledged as the international leader in the development of policy instruments, data and research on financial education and literacy.

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Executive summary

As in other countries, Portugal has experienced a trend towards greater digitalisation in recent years, including in the retail financial sector, which has been further accelerated by the COVID-19 pandemic. More and more people are using digital financial products and services provided by banks and other intermediaries to carry out their daily financial operations or purchase financial products completely online. In parallel, new products (such as crypto assets, crowdfunding, etc.) and traditional products with new digital features have emerged and are increasingly used by Portuguese people. Also, new service providers have entered the retail financial markets in Portugal, in a context where national borders are blurred by the cross-border provision of services. The use of e-commerce has increased tremendously in recent years and is expected to continue to increase.

The digitalisation of financial products and services has given greater opportunities to individuals to manage their finances in a fast and convenient way, for example through mobile apps or online platforms. However, it has also exacerbated existing risks and/or introduced new ones, such as exposure to new types of online frauds and scams, risks related to cybersecurity or data protection, or new forms of exclusion. The speed and ease in transacting through digital channels has also exacerbated certain behavioural biases such as impulsive financial decision-making, that may lead to excessive spending and/or borrowing. In parallel, the cross-border provision of financial services through digital channels may lead to uneven levels of protection both within or across jurisdictions. Altogether these risks can result in a range of negative outcomes, including limited trust and confidence in digital financial services and technological innovation, new types of exclusion for certain groups of the population, increased customer vulnerability to unfair practices or criminal activities and over-indebtedness or over-spending.

Objectives and structure of the report

This report contributes to the evidence and analysis required for the design of a digital financial literacy strategy in Portugal. It assesses the level of digital financial literacy and maps digital financial education initiatives in Portugal. It highlights that, considering the characteristics of the Portuguese economy and society, there is scope for improving the digital financial literacy of people living in Portugal, especially among certain groups or on certain topics. It will inform the dialogue leading to the design of a digital financial literacy strategy for Portugal.

The report builds on several sources, including desk research, existing financial literacy data and other relevant national surveys, a stocktaking survey and a stakeholders' workshop on existing digital financial education activities in Portugal, and a survey to measure the digital financial literacy of the Portuguese population. The findings in this report complement existing data and research, therefore contributing to the evidence required to design a strategy to improve digital financial literacy in Portugal.

Chapter 2 gives an overview of the recent trends regarding the digitalisation of the retail financial market in Portugal. It describes levels of digital inclusion and digital skills of the Portuguese population, as well as some of the existing programmes aiming to improve those skills. It also presents the main aspects of financial inclusion and digital financial inclusion in the country. It summarises the results of recent studies

assessing the financial literacy of different groups of the Portuguese population. Finally, this chapter lists some of the main benefits that digital financial literacy policies are expected to bring to the Portuguese population.

Chapter 3 provides an overview of digital financial education provision in Portugal, based on the results of a dedicated stocktaking survey (covering the period 2019-2021) and a stakeholder workshop. It describes the stakeholders from the public, not-for-profit and private sectors active in the provision of digital financial education in Portugal. It presents some of the digitalisation aspects taken into account in the Portuguese National Plan for Financial Education before analysing existing digital financial education initiatives in place in Portugal.

Chapter 4 presents the results of the OECD 2022 survey to measure the digital financial literacy of the Portuguese population. This quantitative survey assessed the level of digital financial literacy in Portugal and provides detailed analysis in terms of:

- Digital inclusion, including elements on access and use of information and communication technology, and on online safety.
- Digital financial inclusion, including elements on the engagement with online shopping, home banking and other digital financial services.
- Online financial safety and exposure to financial fraud and scams.
- Digital financial literacy levels, including elements on knowledge, behaviour and attitudes.

Chapter 5 discusses the digital financial literacy needs of the population in Portugal, based on the results presented in Chapter 4. It also analyses the extent to which existing digital financial education programmes implemented in Portugal address such needs, in terms of design, delivery methods, content, and target groups.

Building on the findings of this report, a Digital Financial Literacy Strategy for Portugal will be developed, together with an implementation roadmap.

Key findings and considerations

Digital inclusion and digital financial inclusion

The use of the Internet is widespread in Portugal, with the use of smartphones more prevalent than computers. However, findings of this report show that some population sub-groups are excluded from the digital world because of a lack of basic skills to cope with the perceived complexity of using digital tools. Consequently, many people do not use of digital tools to perform certain daily activities or to engage with financial services.

Regarding digital financial inclusion, 45% of respondents to the survey reported shopping online (this percentage raises to 60% for those using the Internet), 50% of respondents reported using home banking services (65% of Internet users) and 44% of respondents (58% of Internet users) reported using other digital financial services such as MBWay, digital services to transfer money or e-wallets to make payments, among others. All in all, 58% of respondents (76% of Internet users) either shop online, use home banking services or other digital financial services.

Overall, the main reason for not shopping online or for not using home banking is a preference for personal contact: for example, seeing and touching products before buying instead of shopping online or using a physical ATM and/or bank the branch instead of using home banking. The complexity of using technology and the limited trust/confidence in digital technologies and digital financial services are also mentioned as important reasons for not using certain digital financial services.

Digital financial literacy needs of the Portuguese population

Based on the results of the OECD 2022 survey to measure the digital financial literacy of the Portuguese population, the main digital financial literacy aspects that need to be strengthened are as follows:

- **Application of basic safety practices when going online**: The Portuguese population appears to adopt many safety procedures when using the Internet (for example when setting passwords or using adequate anti-virus software). However, the survey highlighted that specific online safety procedures are followed to a limited extent in certain domains. Many people may see online safety as a one-off requirement rather than a regular behaviour. For example, many people tend to set strong passwords, but not to update them. Also, the use of safety measures for specific tools, such as mobile applications, appears not to be very widespread.
- **Skills to protect personal data when using digital tools**: Overall, personal data protection measures are well implemented by the Portuguese population when going online, but they may be improved in some specific areas. For instance, many people do not give enough importance to reading and understanding privacy policy statements before providing personal data or do not ask website administrators to delete their personal data when necessary. In addition, the number of people who protect their personal data when using social networks may be increased.
- **Digital financial knowledge**: Overall, less than half of Internet users know the correct answer to most financial knowledge questions. More particularly, the Portuguese population using the Internet shows limited digital financial knowledge on certain aspects. There is limited awareness about the fact that, generally, the same requirements apply regardless of whether an activity is carried out online or in person. There is also limited knowledge of consumer rights in an online environment. Less than 50% of respondents are aware about the fact that some online financial services providers may not be regulated by financial authorities in Portugal. Only 27% of Internet users in Portugal have knowledge about the use of personal data by financial institutions and certain pricing or marketing practices applied by online providers (such as customer profiling in the context of granting credit or insurance). There is also limited knowledge on crypto-assets, especially in terms of risks, whether they are regulated or have legal tender.
- **Engagement in safe digital financial behaviours**: Portuguese users of digital financial services (DFS) appear to engage in safe behaviours in some domains but not in others. While people who shop online show a relatively high proportion of safe digital financial behaviours, people using home banking show some risky behaviours (namely not changing passwords regularly). Around half of respondents who reported using digital financial services claim to read information and disclosure requirements when buying a digital financial product, but a significant part of this group does not look for information on the safe use of digital financial services. One fifth of DFS users said they do not know where to get information about frequent financial scams and online frauds.
- **Digital financial attitudes**: Significant parts of DFS users are not aware that it is unsafe to use public Wi-Fi networks when shopping online and tend to display less cautious or more impulsive attitudes when being online than when transacting in person. However, digital financial users in Portugal appreciate the digitalisation of financial services and trust their financial institutions' online financial services.

Groups most in need

The report identifies several groups in the population who have specific digital financial literacy needs and may need to be prioritised by digital financial education programmes:

- **Young people** (16 to 24 years old): Young people make extensive use of the Internet and digital tools. This population also engages in digital financial activities, including risky activities such as

acquiring/trading crypto-assets. Although this population shows great digital skills in certain areas (for example, creating strong passwords or using and updating anti-virus and anti-spyware software on laptop/computer), they are less likely than people in middle age to apply certain data protection measures, especially when using social media. They also apply safety procedures in a limited way, notably when using home banking. Young DFS users have a digital financial knowledge score (53) in line with the average population (52 out of 100), and this is the lowest score they have when compared with the attitude and behaviour score and may need improvement. Finally, young people are less likely to report when being victim of an online financial fraud than other age groups.

- **Older adults** (55 years old and over): The population aged 55 years old and over – and especially the more elderly sub-group aged 70 years old and over – faces multiple challenges that underpin specific digital financial education needs. This may need special attention in the context of population ageing, as the share of the elderly in the overall Portuguese population is expected to increase in the next decades. Older adults use the Internet and digital tools less than young age groups, as they often find such tools too complicated to use. In this regard, older adults are more likely to be digitally excluded than other population groups. When using the Internet, older adults show high exposure to online risks, as they are less prone than other population sub-groups to know and apply basic safety procedures when being online. They also appear more vulnerable than middle-aged adults on protecting their personal data online. Regarding digital financial services, older respondents have limited awareness of DFS and use them in a limited way. When doing so, they have the lowest digital financial knowledge and behaviour scores across age groups. Finally, many seniors using home banking and other DFS do not behave cautiously (as, for instance, they fail to log off from their home banking accounts, to change passwords regularly or to read information and disclosure documents before buying a product, among others).
- **Low-income and low education individuals**: Both population sub-groups show significant vulnerabilities. They both have very low levels of digital inclusion because they deem the Internet and digital tools as too complicated to use. When being online, these groups do not apply basic online safety procedures and show significant gaps in all the aspects related to digital financial literacy (i.e. digital financial knowledge, attitudes and behaviour).
- **Women**: While gender does not play a key role in a range of aspects, there are significant gender differences in certain areas. In particular, women are more willing than men to report fraud but show lower levels of digital financial literacy (namely in the knowledge component).

Gaps in the provision of digital financial education

Several private and public actors are involved in the provision of digital financial education in Portugal. Based on the information from the stocktaking survey and the stakeholder workshop, which covered the main initiatives but may not have been exhaustive, in the period 2019-2021, nine organisations were active in providing digital financial education through over 18 initiatives, mostly delivered in a digital way. According to the stocktaking survey, stakeholders are well aware of the challenges facing the Portuguese population and have a comprehensive view of the vulnerable groups to be targeted as well as the main areas where further education is needed. There is also a great degree of cooperation between the different stakeholders, building on the existing financial education ecosystem in Portugal.

Digital financial literacy needs are identified and addressed to a certain extent by existing initiatives. For instance, existing initiatives are already covering some of the key needs identified in this report. Existing initiatives are mainly targeting young people (and the elderly, although to a lesser extent).

However, the report identified some gaps between the provision of digital financial education and the actual digital financial literacy needs of the population, therefore suggesting areas for improvement:

- **Reach of initiatives and awareness of the importance of digital financial literacy**: There is a gap between the overall digital financial literacy needs of the Portuguese population and the actual number of individuals reached by existing initiatives. More efforts could be done to increase the reach of digital financial education initiatives and to increase awareness among the population about the importance of improving their own digital financial literacy.
- **Content of digital financial education**: More efforts could be done to ensure that the topics of digital financial education initiatives cover the identified needs, for instance on specific topics:
    - *With regard to digital (financial) inclusion:* digital financial education initiatives could address some of the stated reasons for the low take-up of digital tools and digital financial services (i.e. complexity of digital tools and/or DFS and a preference for personal contact). They could also aim at addressing the limited awareness of many digital financial services and tools.
    - *With regard to online safety and data protection*: digital financial education initiatives could aim at improving certain online safety behaviours identified in this report, and at improving awareness of common types of fraud, based on evidence from attempts experienced by the Portuguese population. Digital financial education initiatives could cover to a greater extent the importance of protecting personal data, especially on social media.
    - *With regard to digital financial knowledge:* digital financial education initiatives could aim at improving knowledge on certain aspects, such as consumers' rights in an online context, pricing or marketing practices online, or the security of online payments. Furthermore, digital financial education initiatives could focus on raising awareness and understanding about the regulatory aspects and risks of crypto-assets.
    - *With regard to digital financial behaviour and attitudes:* Digital financial education initiatives could aim at fostering digital financial behaviour, such as not using public Wi-Fi to shop online, reading information and disclosure documents, seeking help in the event of online financial scams and frauds, searching for reliable information about digital financial services.
- **Recipients of digital financial education**: The majority of existing digital financial education initiatives focus on young people and to a lesser extent on the elderly. More efforts could be devoted to address the needs of specific socio-demographic groups such as seniors, people with low income and low education, as well as women. In addition, further efforts could be done to reach digitally excluded individuals.
- **Format and delivery of digital financial education**: Given the limited digital skills of certain groups, more efforts could be done to adapt the format and delivery of digital financial education initiatives to individuals' needs and preferences. Also, long term initiatives could be developed to complement one-off events and campaigns in order to foster longer-term behaviour change towards the safe use of DFS.
- **Monitoring and evaluation**: monitoring and evaluation of digital financial education initiatives could be more systematic, leveraging automatic features enabled by digital tools.

1 Introduction

Background

In Portugal along with many other countries, the digitalisation of financial products and services in recent years has given greater opportunities to individuals to access finance as well as to manage their personal finances and plan their financial future. Digitalisation has made it possible for bank customers to access products and services in a fast and convenient way, through mobile apps or online platforms. Bank customers are increasingly using these digital channels to make payments, open and use deposit accounts and take out consumer credit.

At the same time, the financial landscape has become more complex and digital financial services have introduced new challenges and risk factors. The use of digital channels exposes bank customers to cybersecurity risks, such as online fraud and scams and may lead them to make less thoughtful financial decisions in face of the speed of access to banking products and services through these channels. This may have serious consequences, especially concerning access to credit, as fast and more impulsive decisions may lead to an undesired increase in indebtedness.

The COVID-19 pandemic has accelerated the digitalisation trend further and exacerbated the risks arising from the use of digital financial channels. Many more consumers have begun to use digital channels to carry out their daily financial operations, and even those less familiar with new technologies have had to go digital. Of concern though, online fraud and scams have increased significantly in this new context. Moreover, some vulnerable groups are not able to use digital technology. With the increased digitalisation of banking products and services and the decrease in traditional delivery through bank branches, these groups with limited digital access and skills may end up being excluded from the financial system.

To address concerns about low levels of financial literacy and limited ability to use digital financial services effectively among some groups of the population, governments in the European Union and around the world have started including elements to foster digital financial literacy within their financial education policies. Adequate levels of digital financial literacy are expected to foster financial inclusion and address the risks associated with digital channels, such as a lack of use and trust in digital financial services, cybersecurity risks and undesired increases in indebtedness. Adequate levels of digital financial literacy are also expected to avoid the risk of financial exclusion that may arise from digital exclusion. Higher digital financial literacy skills may also support the use of certain digital tools that can empower individuals to make appropriate, sustainable and safe financial decisions.

There are no specific data on the level of digital financial literacy of the Portuguese population, despite the availability of data on financial literacy in general. Therefore, there is a need to collect dedicated data and based on this, to develop a digital financial literacy strategy and roadmap for its implementation. Although Portugal has been conducting financial education initiatives for some time, the need to strengthen digital financial education has recently emerged and was especially stressed by the COVID-19 pandemic context.

This report will support the development of an evidence-based strategy on digital financial literacy in Portugal. The strategy is expected to empower people to increase the use and trust of digital financial products and services and to make people more resilient to online fraud attempts and cybersecurity attacks

and more aware of behavioural biases when accessing financial products and services through digital channels.

Process to develop the report

This report aims to map, review and analyse the status of digital financial literacy in Portugal in order to identify needs and gaps in the provision of financial education about digital financial services. Mapping existing financial education initiatives and relevant stakeholders is a prerequisite to the establishment of financial literacy policies and strategies and is ideally conducted during its design phase. Beyond taking stock of financial education provision, mapping exercises can also gather stakeholders' views on current needs and provision as well as on the future of financial literacy policy and practice (OECD, 2012[1]; OECD, 2020[2]). A majority of jurisdictions with a national strategy have undertaken a mapping of existing resources and initiatives on, and stakeholders already involved in, financial education (OECD, 2015[3]). The most commonly used tools to do so are consultations with stakeholders and calls for evidence, desk research, national conferences and workshops open to organisations with a mandate or an interest in financial education. These steps are relevant also for the development of a specific strategy on digital financial literacy within the scope of an existing national strategy for financial literacy more generally.

The process followed to develop this report has been done through several steps: first, a written stocktaking of existing financial education activities by relevant stakeholders (see Chapter 3) and secondly, a survey on the digital financial literacy of the Portuguese population aged 16 and over (see Chapter 4). This process has been complemented by desk research and a workshop. It also takes into account international good practices.

Box 1-1. Definitions used in this report

Digital financial services (DFS)

Financial operations using digital technology, including electronic money, mobile financial services, online financial services, i-teller and branchless banking, whether through bank or non-bank institutions. DFS can encompass various monetary transactions such as depositing, withdrawing, sending and receiving money, as well as other financial products and services including payment, credit, saving, pensions and insurance. DFS can also include non-transactional services, such as viewing personal financial information through digital devices (OECD, 2017[4]).

Digital financial services users (DFS users)

For the purpose of this report, DFS users refer to people who shop online and/or use home banking and/or other digital financial services such as MBWay, e-wallets for making payments, digital services for transferring money other than a home banking service, smartwatches to make payments, crowd-funding services, crypto-assets, online platforms or applications aggregating several bank accounts and payment services, payment initiation services, online trading platforms, automated investment services or robo-advice, and digital budgeting tools; or having performed one of the following activities completely online through a website or application other than that of their home banking service: opened a current account, subscribed a credit card, subscribed an insurance policy, taken out consumer credit, taken out mortgage credit, or subscribed to a pension plan.

Financial literacy

A combination of financial awareness, knowledge, skills, attitudes and behaviours necessary to make sound financial decisions and ultimately achieve individual financial well-being (OECD, 2020[2]).

Financial education

The process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being (OECD, 2012[1]).

Digital financial literacy

A combination of knowledge, skills, attitudes and behaviours necessary for individuals to be aware of and safely use digital financial services and digital technologies with a view to contributing to their financial well-being (OECD, 2022[5]).

Digital financial education

Digital financial education refers to initiatives/programmes providing information, education and generic guidance on the use of digital financial services.

Financial resilience

Financial resilience can be thought of as the ability of individuals or households to resist, cope and recover from negative financial shocks. Such negative financial shocks can result from various unexpected events, including those related to employment, health, changes in family composition, damage to household possessions, or other large, unexpected expenses. The ability to avoid losing financial resources from fraud/scams attempts can also support financial resilience (OECD, 2021[6]; OECD, 2020[7]).

Financial well-being

Financial well-being is considered as the ultimate objective of financial education and includes the following elements:

- Having control over one's finances in terms of being able to pay bills on time, not having unmanageable debt and being able to make ends meet.
- Having a financial "cushion" against unexpected expenses and emergencies.
- Having financial goals and being on track to meet those financial goals.
- Being able to make choices that allow one to enjoy life (OECD, 2020[7]).

Source: OECD Council Recommendation on Financial Literacy (OECD, 2020[2]); High-level Principles on National Strategies for Financial Education (OECD, 2012[1]), OECD/INFE 2020 International Survey of Adult Financial Literacy (OECD, 2020[7]), OECD/INFE Guidance on Digital Delivery of Financial Education (OECD, 2022[5]), G20/OECD INFE Report on ensuring financial education and consumer protection for all in the digital age (OECD, 2017[4]) and G20/OECD-INFE Report on Supporting Financial Resilience and Transformation through Digital Financial Literacy (OECD, 2021[6]).

2 Context

The digitalisation of the retail financial market

Recent trends

The impact of digitalisation on the financial landscape is affecting all market players, across banking, insurance, investment and pension providers. The use of digital technologies is having an impact on both internal processes and on the way in which financial institutions interact with existing and prospective clients. It is changing the way products are developed, but also sales practices, customer advice or communication between providers and clients.

Moreover, the digitalisation trend was further accentuated by the COVID-19 pandemic. The nature of the pandemic forced people to use more digital tools and services in order to abide by social distancing or lockdown requirements taken by public authorities to contain the pandemic. Digital technologies have also helped to facilitate policy responses to the pandemic and to adapt economic activity to containment measures (OECD, 2021[8]).

The COVID-19 pandemic accelerated the shift towards greater digitalisation in all domains, including financial services, financial information, financial education and advice. Digital financial services have also facilitated, amid social distancing, the effectiveness of lockdown measures and have enabled transactions respecting sanitary requirements. Many jurisdictions around the world have also implemented measures to facilitate the use of digital tools and promote the use of digital financial products and services. In the case of Portugal, limits for contactless payments were raised (Banco de Portugal, 2020[9]) and bank customers affected by the COVID-19 pandemic benefitted from a suspension of commissions and fees charged for payment transactions via digital channels (Banco de Portugal, 2020[10]), for instance.

In parallel, many jurisdictions have observed an increase in the availability of digital financial products and services with the entry of new digital financial products and services while others witnessed the enhancement or rapid uptake of existing digital financial products, particularly payment and transaction products such as digital wallets and digital person-to-person and person-to-business payments (OECD, 2021[11]).

In adapting to pandemic mitigation actions, most firms and households changed their demand for financial services. For instance, most jurisdictions in the world have seen an increase in the use of digital platforms by consumers notably accompanied by a sharp decline in customer willingness or ability to visit bank branches. Digital payments have increased as a percentage of the volume and value of total payments, while declines in the use of cash were observed, as did the number of ATM transactions and the number of bank branches (OECD, 2021[11]; ECB, 2020[12]).

Overview and main digitalisation trends in the retail financial sector in Portugal

E-commerce and business digitalisation

According to the National Institute for Statistics (*Instituto Nacional de Estatística* - INE), the percentage of e-commerce users in 2020 increased by 7 percentage points compared to 2019. This represents the largest yearly increase since such data series started twenty years ago. In 2020, 44.5% of people aged 16 to 74 years old placed orders over the Internet in the 12 months prior to the interview and 35.2% in the previous 3 months. Also, the number of e-commerce orders increased significantly: the group of users who placed 3 to 5 orders per year increased by 4 percentage points, those who placed 6 to 10 orders per year increased by 9.5 percentage points and those who placed more than 10 orders per year increased by 6.9 percentage points (INE, 2020[13]). The sales of goods and services through e-commerce represented 17% of total turnover in 2020 of Portuguese companies (INE, 2021[14]).

An increase in the use of e-commerce should be considered within the overall context of increasing digitalisation among MSMEs. Results from an OECD survey on a selected group of G20 and non-G20 countries showed that, just before the pandemic started, the level of digitalisation of Micro, Small and Medium Enterprises (MSMEs) in Portugal was higher than the G20 average (OECD, 2021[15]). For micro businesses (up to 9 people), the digitalisation score[2] was 31 out of 100 (compared to 27 on average in the participating G20 countries) while the score for small companies (with 10-49 people) was 35 (compared to 33 for the participating G20 countries on average). Furthermore, MSMEs in Portugal and elsewhere stepped up their digitalisation during the COVID-19 pandemic, confirming an increase in several digital activities. In Portugal, 46.5% of MSMEs with 10-49 people (49% for G20 average) and 44% of MSMEs with up to 9 people (56% for G20 average) increased at least one digital activity for their business. Some 28% of MSME with 10-49 people have seen an increase in at least one digital activity related to financial products and services and 30% in at least one digital activity related to sales and other business operations in 2021 compared to the pre-pandemic situation. For smaller businesses (up to 9 people), 30% of them in Portugal have seen an increase in at least one digital activity related to financial products and services and 26.4% in at least one digital activity related to sales and other business operations (OECD, 2021[15]).

Banking

Even before the COVID-19 pandemic, digitalisation already affected many aspects of the banking sector. The process of opening current accounts and acquiring consumer credit products, as well as the provision of payment services, were already becoming increasingly digital. In fact, most banking institutions already had digital channels to provide banking products and services to their private and corporate customers. In 2018, the majority of institutions (87%) offered banking products or services to private customers through the online channel/website and 68% did so through mobile applications (Banco de Portugal, 2018[16]).

According to the INE, the share of Internet users who use online banking has significantly increased since 2010. While in 2010 it represented 38.1% of Internet users, this share raised to 68% in 2022[3].

According to a 2020 study by the Banco de Portugal, approximately 46% of respondents with a bank account reported that they used the digital channels provided by banks (mobile app, home banking or both). Most of the respondents (around 95%) used digital channels to check their bank account balance and transactions. This was followed by the payment of services (82.9% through home banking and 76.1% through apps) and credit transfers (78.9% through home banking and 70.2% through apps) (Banco de Portugal, 2021[17]).

Financial innovation

Portuguese regulators are committed to helping the FinTech market thrive. To this effect, the Banco de Portugal, the Portuguese Securities Market Commission (CMVM) and the Portuguese Insurance and

Pension Funds Supervisory Authority (ASF) have created direct channels for communication between FinTechs and the relevant authorities. The financial innovation hub FinLab[4] provides a communication channel between innovators – new players in the market or incumbent institutions having innovative tech-based financial projects or products – and the Portuguese regulatory authorities.

In 2021, 70% of FinTechs in Portugal were Business-to-business (B2B) companies (Banco de Portugal, 2021[18]). With the transposition of the Payment Services Directive[5] – PSD2 - into Portuguese law in November 2018, new partnerships have started, and will probably continue to arise, specifically with third-party providers rendering services to other financial firms (for example, in relation to open banking) and payment initiation services and account information services have entered the market in 2019 and 2020 (Correia Moreira and al., 2021[19]). New payment solutions and platforms have emerged, such as MBWay[6] which makes it possible to make instant transfers between bank accounts.

Crowdfunding is also an area of the financial services sector that has been significantly influenced by FinTechs. New crowdfunding players have entered the market in 2018 after the approval of the legal framework and the granting of the first licences by the CMVM. According to the third survey on Financial Literacy of the Portuguese population, in 2020, 21.2% of the population was aware of crowdfunding while 0.3% claimed to have invested their money in such a product (CNSF, 2021[20]).

Blockchain technology is being implemented in a significant number of projects in Portugal but is yet to have mainstream usage in private or public organisations. For these reasons, the government and regulatory authorities have invested in studying blockchain technology with a view to creating favourable conditions for the establishment and development of the sector, while protecting markets participants' interests. As of February 2023, there are nine companies licensed by Banco de Portugal to legally operate in this area in Portugal, including a bank[7]. However, other actors are also operating in Portugal given the essentially cross-border nature of mining and intermediation activity. According to the third survey on Financial Literacy, in 2020 around one third (34.7%) of respondents had heard about crypto assets while around 1% claimed to have invested or saved their money in cryptocurrencies or initial coin offerings (CNSF, 2021[20]).

Main risks and negative outcomes faced by consumers in using digital financial services

From a financial consumer protection perspective, the main risks to consumers in using digital financial services may be categorised as:

- Market driven risks, including misuse of unfamiliar products by uninformed consumers, new types of fraud (see Box 2-1), lack of security, increased speed of transactions leading to greater likelihood of violation of consumer rights (for example, right to clear information), exposure to misleading or false advertising, lack of privacy and confidentiality, inappropriate or excessive use of digital profiling to identify potential customers and exclude unwanted groups leading to financial exclusion.
- Regulation and supervision driven risks, such as uneven level of protection within jurisdictions (inadequate disclosure of information and/or redress mechanisms) or across jurisdictions. With regard to the latter, the provision of financial services through digital channels can facilitate cross-border transactions. Indeed, the cross-border provision of retail financial services to customers has grown quickly in recent years and there are many cases where financial institutions are providing their services to customers residing in other countries through digital means and using digital platforms.

  This can lead to regulatory arbitrage or lack of coordination among supervisory authorities, with respect to new types of digital financial services or data protection issues among others. It also has strong impacts in terms of consumer protection, for example with regard to the ability to seek redress or take enforcement action if required (OECD, 2020[21]).

- Consumer driven risks, such as low levels of digital and/or financial literacy contributing to financial exclusion particularly among vulnerable consumers, limited awareness of DFS and associated risks and misuse of certain products that may lead to a poor perception and lack of trust in DFS. Other consumer driven risks include the impact of behavioural biases on digital transactions or the rapid access to high cost/short-term credit and other market practices that can reinforce behavioural biases.
- Technology driven risks, such as increased use of algorithms and the outcomes generated, issues relating to access or reliability of digital networks and cybersecurity risks (OECD, 2020[21]).

These risks can have a negative impact on both consumers and business owners, and can result in a range of negative outcomes, including, but not limited to:

- Limited trust and confidence in digital financial services, the financial system and technological innovation.
- New types of exclusion for certain groups of the population (for example, the elderly or people on low incomes).
- Price discrimination or aggressive targeted advertisements due to the increasing use of data analytics for the construction of profiles and the classification of individual consumers in specific profiles (OECD, 2020[22]).
- Lack of accuracy of data or recourse for data correction.
- Over-indebtedness among consumers who may be vulnerable.
- Increased customer vulnerability to unfair and deceptive trade practices, including fraud and mis-selling as well as criminal activity such as phishing schemes, account hacking and data theft (OECD, 2018[23]).

Box 2-1. Online fraud and scams in Portugal before the COVID-19 pandemic

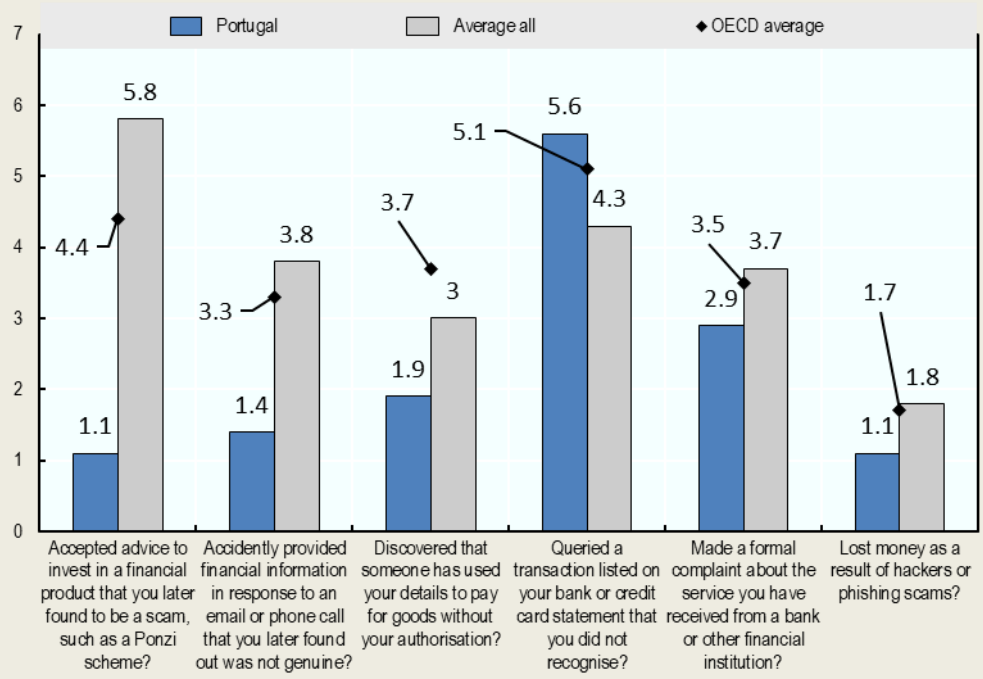
Being aware of financial scams and possible frauds and taking steps not to fall victim to one are characteristics of a financially resilient individual (OECD, 2020[7]). This box presents an overview of online fraud and scams in Portugal before the COVID-19 pandemic; a more detailed discussion of exposure to online financial fraud and scams in 2022 is included in Chapter 4.

Data from Eurostat show that in 2019 in Portugal, of all Internet users, 14% experienced a phishing attack (compared to 26% in the EU28) while 11% experienced a pharming attack[8] (compared to 13% in the EU28) (Eurostat, 2019[24]). According to 2019 data from INE, 18.2% of the Internet users in Portugal experienced a phishing attack while 14.9% experienced a pharming attack in the 12 months prior to the interview (INE, 2019[25])[9]. According to Eurostat, in 2019, 1% of Portuguese Internet users experienced either online identify theft, a fraudulent credit/debit card use, a misuse of personal information available on the Internet resulting in e.g. discrimination, harassment, bullying or social network/e-mail account being hacked and content being posted or sent without individuals' knowledge. Some 3% experienced a loss of documents, pictures or other data due to a virus or other computer infection (for example worm or Trojan horse) (Eurostat, 2019[24]).

Figure 2-1 illustrates the percentages of adults who reported falling victim to other particular types of financial fraud in Portugal, compared to OECD and other countries participating in the OECD/INFE 2020 International Survey on Adult Financial Literacy. Some 5.6% of the adult population indicated that they had asked their bank about movements that they did not recognize in their bank statement, 2.9% made a complaint about a service provided by a financial institution and 1.9% indicated that they had discovered that someone used their card data without their authorisation. Some 1.1% of respondents reported having lost money as a result of hacking or phishing scams.

Figure 2-1. Falling victim to fraud

Percentage of people who responded Yes



Note: The OECD member countries in the sample are: Austria, Colombia, Estonia, Germany, Hungary, Italy, Korea, Poland and Portugal. "Average all" refers to all the countries and economies (except Czech Republic, Russia, Slovenia and Thailand) drawn from Asia, Europe and Latin America that participated to the OECD-INFE International Survey on Financial Literacy. This represents 20 countries and economies.
Source: OECD-INFE International Survey on Financial Literacy (OECD, 2020[7]). and 3rd Survey on the Financial Literacy of the Portuguese population (CNSF, 2021[20])

Overview of digital inclusion and digital skills in Portugal

Internet access and use

Portugal achieved significant progress in the digital transition over the past decade, catching up with the best performing OECD countries in some areas such as connectivity or digital public services (OECD, 2021[8]). However, Portugal still lags behind many EU Member States on several aspects, such as Internet access and use. According to Eurostat, 87% of Portuguese households have an Internet access in 2021,

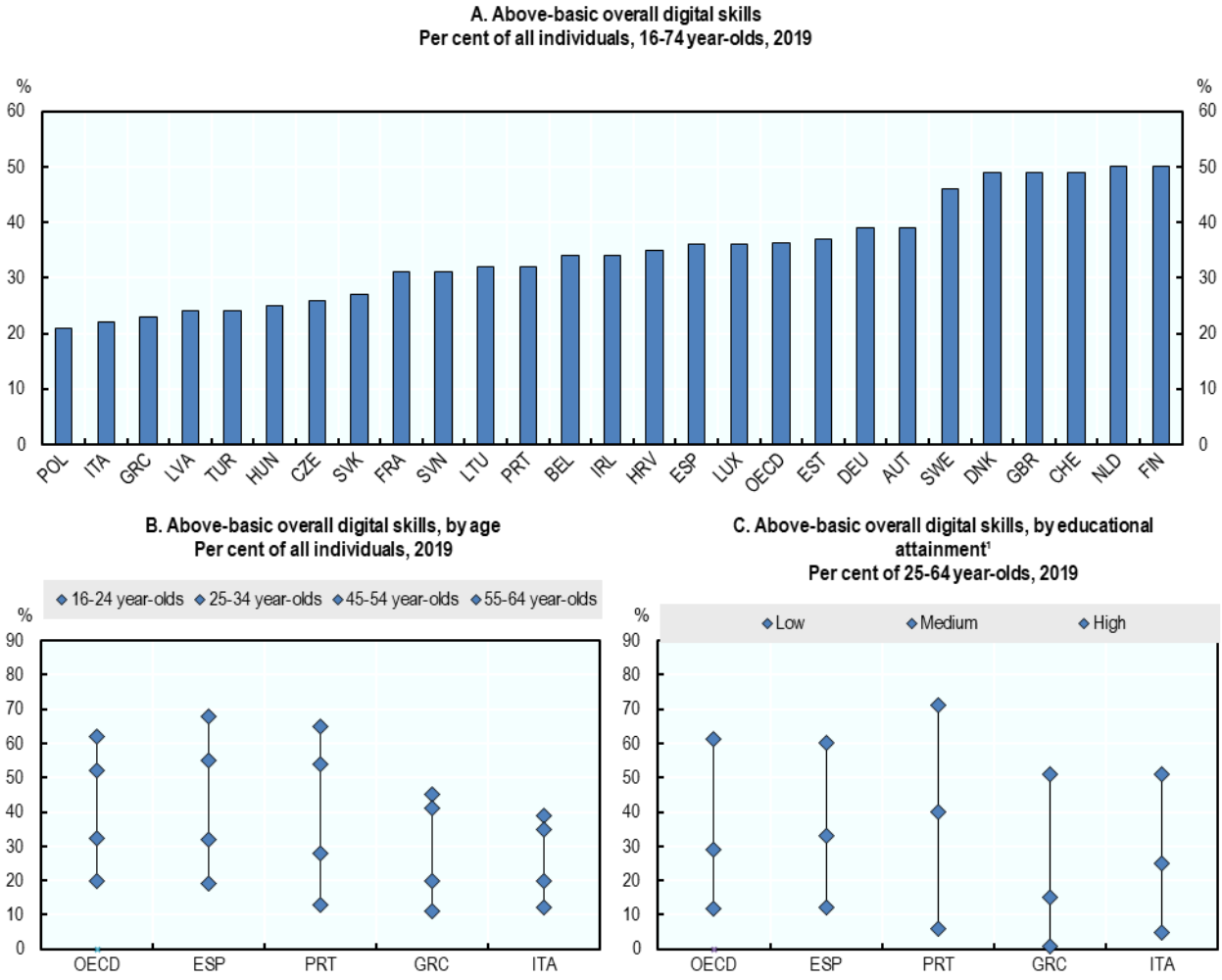
which is below the EU average (92%) (Eurostat, 2021[26]). Latest World Bank 2021 data confirms this figure (86% of individuals aged 15 and more have access to the Internet) (World Bank, 2022[27]).

According to Eurostat data, while frequent usage of the Internet is practically universal among young people in most EU countries, there are still wide differences in Internet usage for older generations within the EU. In Portugal, among people aged 55-64, around 72% used the Internet in 2021 (EU average is 86%) and only 49% of those aged between 65 to 74 years old (EU average is 68%) (Eurostat, 2021[26]).

Digital skills of the population

According to the OECD Economic Survey of Portugal 2021, a significant share of the Portuguese population is not well equipped to thrive in a digitalised world (OECD, 2021[8]). The percentage of people with general digital skills (basic or above basic[10]) is below the OECD average, with very large discrepancies across groups. The lack of above-basic digital skills is particularly pronounced among those with low levels of education and the elderly, while the share of young people with above-basic digital skills is high (Figure 2-2).

Figure 2-2. Adults with above-basic digital skills



Note: 1. Low education refers to level 0-2, medium education to level 3-4 and high education to level 5-8 of the ISCED-A 2011 classification
Source: (OECD, 2021[8]), OECD Economic Surveys: Portugal 2021, https://doi.org/10.1787/13b842d6-en based on data from Eurostat[11], Individuals' level of digital skills.

Effective implementation of the Digital Transition Action Plan[12][13] and on-going programs, such as INCoDe.2030[14], using available EU funds, can contribute significantly to the digital transition and the improvement of digital skills in the Portuguese population (Box 2-2).

Box 2-2. Portugal's initiatives for the development of digital skills

The Action Plan for Digital Transition

The **Action Plan for Digital Transition** – hereafter "Action Plan"- (Portugal Digital, 2020[28]) was approved by the Council of Ministers' of Portugal in 2020[15] and reflects the overall strategy defined for the country's digital transition. The Action Plan includes three main pillars of actions:

- Empowerment and digital inclusion for everyone: Contributing to the development of digital skills and digital inclusion through digital education, professional training and reskilling as well as digital inclusion and literacy (pillar 1).
- Enhancement of the digital transformation of companies and business environment (pillar 2).
- Enhancement of the digitalisation of the State through the development of digital public services or open public national or regional administration (pillar 3).

An official structure was created - *Estrutura de Missão Portugal Digital* (EMPD) - to coordinate and monitor the implementation of the action plan. A wide range of programmes and initiatives fall under the Action Plan. Among those, it is worth mentioning:

- The **Strategy Industry 4.0** programme which aims at promoting a fast and generalised uptake of digital technologies in the industry (pillar 2 of the Action Plan). Its first phase launched in 2017 focused on raising awareness. Its second phase launched in 2019 aims at developing training and offering financing options for investment in digital equipment.
- The ***Comércio Digital*** programme[16] ("**D**igital Commerce") which aims at developing digital marketing in 50 000 SME by 2021. It includes a platform to share best practices, the provision of vouchers for training, free website, mailbox, and website accreditation.
- The **SIMPLEX** programme[17] for the simplification and modernisation of the public administration (pillar 3 of the Action Plan) which is based on a bottom-up approach for the identification of stakeholders' needs and expectations, including for the development of the digital government.
- The **INCoDe.2030 programme** which aims to improve Portuguese's digital skills (see below).

The INCoDe.2030 programme

Established in 2017 by the Portuguese government, the National Digital Competences Initiative e.2030 or **INCoDe.2030** is a fundamental component of the Action Plan (to which it was aligned in May 2021 to cover targeted measures for specific groups and the population at large). INCoDe.2030 is an integrated public policy programme aiming at enhancing and fostering digital competences of people and workforce in Portugal, hence contributing to fulfil the first two pillars of the Action Plan. The programme has five main goals related to access, human potential, use, investment, and training and certification. For each of these goals, the programme sets quantitative indicators to be reached:

- In terms of access, improving the percentage of households with internet access and the percentage of individuals who frequently use the internet while decreasing the percentage of individuals who have never used the internet, among others.
- In terms of human potential, improving the percentage of individuals with basic or above-basic digital competences and the percentage of ICT specialists in employment among others.
- In terms of use, improving the percentage of employees who use computers with an internet connection at work, the percentage of SMEs with a high level of digital intensity and the percentage of individuals using the internet for online banking among others.
- In term of investment, increasing the total gross domestic expenditure on R&D (GERD) in percentage of GDP and increasing the business enterprise sector expenditure on R&D (BERD) in percentage of GDP.
- In terms of training and certification, improving pedagogical competences of ICT teachers and the number of available digital literacy trainings among others (Governo de Portugal, 2017[29]).

In order to reach these objectives, the INCoDe.2030 is developed through initiatives promoted by public and private entities, which are the responsibility of different government areas, and presents itself as an aggregator of those entities and the various initiatives[18] with converging objectives, organizing itself around the following five action lines:

- Education and training: Training of young people through the reinforcement of digital skills at all levels of qualification and education and training modalities.
- Qualification and requalification: Professional training of adults, namely active people, endowing them with digital skills valued in the integration and reintegration into the labour market and with a view to qualifying employment and creating greater added value in the economy.
- Inclusion: Training and dissemination to the entire population and the entire territory of access to digital technologies, for obtaining information, for communication and for accessing and using digital public and private services.
- Advanced training: Promotion of higher-level training, reinforcing the offer of higher professional technical courses in this area, as well as graduate and post-graduate training of a professional nature.
- Research: Securing conditions for the production of new knowledge, namely in disruptive technologies and active participation in international R&D networks and programs.

The Observatory for Digital Competences[19] was created in order to have a system for collecting, recording, analysing data and providing information on these and other related indicators, run by the Directorate-General for Education and Science Statistics at the Ministry of Science and Technology

Under the INCoDe.2030 programme, the following initiatives aim to improve digital skills of specific groups of the population:

- The ***Eu Sou Digital***[20] ("I am Digital") programme, launched in 2020, aims to train, by 2023, more than 1 million adults in basic digital skills. The goal is to prepare 30.000 volunteers so that they can provide basic digital training and create 1,500 digital skill training centres in partnership with local authorities and organizations throughout the country with a focus on 45+ year olds. As part of the programme, the development of ***Comunidades Criativas para a Inclusão Digital*** ("Creative Communities for Digital Inclusion") promotes digital inclusion of vulnerable groups through community projects.
- The ***Emprego + Digital***[21] programme focuses on the specific digital reskilling and upskilling needs in different business sectors. The objective is to reach a minimum of 200 000 employees by 2025.
- The **Upskill**[22] programme aims to reskill 3 000 unemployed people into IT specialists by 2023.
- The ***Garantia Digital*** ("Digital Guarantee") programme aims to ensure that, by 2023, all unemployed people receive a digital training offer appropriate to their level of qualification and skills profile.
- The ***Jovem + Digital***[23] has been set up to improve the digital capacities of young unemployed adults. It aims to train 15 000 unemployed youngsters by 2023.
- The ***Escola Digital***[24] ("Digital School") programme aims at improving ICT equipment, connectivity, and ICT teacher training in the public-school system. The programme includes other digital educational resources (digital schoolbooks, collaboration tools, digital contents).

Portugal's recovery and resilience plan

In June 2021, the European Commission adopted a positive assessment of Portugal's recovery and resilience plan (RRP) as part of the "NextGenerationEU" temporary recovery instrument. The RRP is an investment plan for all Portuguese people, based on three structuring dimensions: Resilience, climate change and digital transition. The RRP consists of 83 investments and 37 reforms, supported by EUR 13.9 billion in grants and EUR 2.7 billion in loans under the Recovery and Resilience Facility (RRF) over the period 2021-2026. 38% of the plan will support climate objectives while 22% of the plan will foster the digital transition (EUR 3.67 billion).

To ensure that Portugal accelerates the transition to a more digital society, the national options in the RRP are based on 5 components in the following areas:

- Enhancing the digitalisation of enterprises and catching up with the digital transition process.
- Increasing transparency in the use of public resources, promoting integrated management of public assets and improving the performance of social security.
- Reducing the administrative and regulatory burden on business by cutting sectoral obstacles to licensing and increasing the efficiency of administrative and tax courts.
- Improving the relationship between public services, people and businesses, optimise management and free up resources to promote public investment.
- Empowering and digitally including people through educational and pedagogical innovation, development of skills in digital technologies as well as modernisation of the education system.

With regard to the digital transition of enterprises, relevant programmes/initiatives focusing on digital skills notably include the ***Academia Portugal Digital***. It was launched in March 2022 and provides an online platform for digital skill assessments, personalised training plans and training courses, connected with other public and private online training platforms. The objective is to reach at least 800 000 users. Under this programme, the **Digital Jobs 2025** programme for building skills in digital technologies aims to respond to the challenges and opportunities in a number of business sectors strongly impacted by digital transformation processes and the COVID-19 pandemic such as industry, commerce, services, tourism and agriculture, the sea economy and construction.

With regard to the public administration, important programmes aim at building Public Administration workers' and managers' digital skills such as the ***Infoexclusão Zero*****,** aimed at public sector workers in a situation of digital exclusion, and the ***AP Digital 4.0***, aiming at providing training in IT tools and emerging technology for Public Administration managers and workers. ***Plano de Capacitação Digital dos Docentes***[25] ("Active Teachers Learning") aims at providing digital skills for approximately 100 000 teachers by 2023.

Source: https://www.incode2030.gov.pt/en/goals, Ministry of Labour, Solidarity and Social Security, European Commission, Digital Economy and Society Index 2021[26] and Recuperar Portugal[27]

Overview of digital financial inclusion in Portugal

General aspects of financial inclusion of the Portuguese population

The overwhelming majority of the Portuguese population have access to the banking system through the holding of a current account. Some 90.9% of respondents in 2020 report having a current account. The percentage of respondents aged 55 and over who have a bank account is slightly lower than average at around 88%. Students and the unemployed are also population groups with a high proportion of respondents without a bank account (16% and 14.8%, respectively). Lower levels of education and income are also associated with greater exclusion from the banking system (25.7% of respondents with no primary education and 24.9% of respondents with a monthly income of up to EUR 500 do not have a bank account) (Banco de Portugal, 2021[17]).

In 2021, there were 25.5 million active payment cards in Portugal (issued by payment service providers operating in Portugal), which means that, on average, each inhabitant had 2.5 cards (Banco de Portugal, 2022[30]). With regard to young people, 24% of 15-year-old students who sat the PISA 2018 financial literacy assessment reported holding a payment card or debit card (OECD, 2020[31]).

With regard to debt, in 2020 46.6% of Portuguese households were indebted (Banco de Portugal and INE, 2022[32]). Among the respondents to the 3rd Financial Literacy Survey of the Portuguese Population, 20.2% of them hold mortgage loans while 12.9% have a personal or car loan and 36.2% hold a credit card (CNSF, 2021[20]).

At the end of 2021, the financial assets held by Portuguese households amounted to more than 71,000 EUR per capita, which was relatively low compared to other EU (EUR 99,350) or OECD countries (EUR 110,500). The main type of financial asset held by households is currency and deposits (46.6% of total households financial assets) followed by shares and other equity (24.4%), life insurance reserves (9.1%), mutual funds shares (6.3%), pension entitlements (5.2%) and securities other than shares (1.4%) (OECD, 2022[33]). Among the respondents to the 3rd Financial Literacy Survey of the Portuguese Population, 5,4% of them held stocks in 2020, 4.1% invested in an investment fund while 2.9% held bonds (CNSF, 2021[20])

Aspects of digital financial inclusion

Use of digital channels to access banking services

With regard to the use of digital channels to access banking products and services, according to the Report on Financial and Digital Inclusion and Choice of Banking Products in Portugal (Banco de Portugal, 2021[17]), before the COVID-19 pandemic, almost half of the respondents with a bank account (46%) said they use the digital channels provided by banks. Almost 20% used both mobile apps and the home banking website, while 16.5% used only apps and 10% used only the home banking website. Respondents aged between 25 and 39 were those who used digital channels the most (74.7%), a proportion that dropped to 8.1% among respondents aged 70 and over.

The use of digital channels increases with the level of education and income. The vast majority of respondents with higher education (80.3%) and those from households with high income (78.9%) used home banking websites or apps. As the main reason for not using digital channels, 32.1% indicated difficulties in dealing with technology, 20.3% preferred to use ATMs, 16.8% preferred personal contact and 16% did not trust that it is safe to use these channels (Banco de Portugal, 2021[17]).

Digital banking services used

According to the Banco de Portugal Report on Financial and Digital Inclusion and Choice of Banking Products in Portugal, before the COVID-19 pandemic started, around 95% of respondents to the survey

using digital channels used them to check the bank account balance and transactions. The second most used service was payment of services (82.9% through home banking websites and 76.1% through apps). The third most used service was credit transfers (78.9% through home banking websites and 70.2% through apps). Other types of services were significantly less used than those previously mentioned. Indeed, 12.2% had used home banking websites to take out a time deposit (5.1% using apps). A bit more than 3% used digital channels to subscribe an insurance online, while 3.7% used home banking websites to make investments in either bonds, shares, or investment funds (Banco de Portugal, 2021[17])

Digital banking services used by different groups

In 2020, the percentage of young people (16-24 years old) who used home banking websites or mobile applications (apps) to access their bank account (63.2%) was much higher than for other respondents (44%). The preference of young people for apps is also evident, since around 40% of young people indicated only using this channel, a proportion that was 13.8% for other respondents. Only 8.1% of seniors indicated that they use home banking websites or apps to access their bank account. As the main reason for not using digital channels, about half (51.3%) of seniors reported difficulties in dealing with technology, a much higher proportion than among other interviewees (23.4%). Among the unemployed, less than half of respondents (44.9%) said they used home banking websites or apps to access their bank account. The proportion of women who said they did not use home banking websites or apps to access their account (58%) was higher than that of men (48.5%) (Banco de Portugal, 2021[17]).

With regard to payment application ownership (e.g. MBWay), 15.9% of respondents reported having MBWay in 2020. Around one-third of respondents aged between 16 and 24 years old had such application, while only 4.9% of those aged 55 to 69 years old and 0.7% for those aged 70 and more reported to have it. Indeed, most seniors were unaware of the existence of payment accounts associated with mobile phones such as MBWay. Also, 23.2% of workers had MBWay, above the proportion of other respondents (Banco de Portugal, 2021[17]).

With regard to digital payments, in 2018, around 28% of students aged 15 in Portugal reported that they had made a payment using a mobile phone during the 12 months prior to sitting the PISA 2018 financial literacy assessment; the average across OECD countries/economies was 39% (OECD, 2020[31]).

Overview of the levels of financial literacy in Portugal

Financial literacy among adults in Portugal

The 3rd Financial Literacy Survey of the Portuguese Population (CNSF, 2021[20]) was conducted in 2020 by the National Council of Financial Supervisors (CNSF), within the scope of the National Plan for Financial Education and as part of the OECD/INFE Financial Literacy survey (OECD, 2020[7]). The overall financial literacy score, as computed using the OECD/INFE scoring methodology and defined in the OECD/INFE 2018 Toolkit (OECD, 2018[34]), measures a set of basic financial skills, behaviours and attitudes. Scoring the maximum of 21 effectively means that an individual has acquired a basic level of understanding of financial concepts and applies some prudent principles in their financial dealings. Achieving the maximum thus suggests a basic knowledge and use of finance.

In Portugal, when normalised to 100, the average global financial literacy score is 60.2. Respondents perform more favourably on the financial behaviour indicator than on the attitudes and knowledge indicators. Indeed, the financial behaviour score is the only one that has an average (64.9) higher than the average of the global score. The financial knowledge score has a lower average value (56.6) and the average financial attitude indicator stands at 55.9 (CNSF, 2021[20]).

Among the adult population, in aggregated terms, the adult groups that perform better in the global financial literacy indicator are men, adults aged between 25 and 54, those with secondary or higher education, workers and those living in households with high monthly incomes. On the other hand, adults aged 70 and over, those without or low education as well as those living in households with no income or with a low monthly net income (less than 500 euros) show less favourable financial literacy results.

Furthermore, based on the issues identified by the OECD/INFE to measure financial resilience and following a methodology similar to the other scores, an aggregate score of financial resilience was constructed. This score weights a total of ten questions, aggregated into five components[28]. Respondents with higher education and those living in households with higher incomes perform better on the financial resilience indicator (CNSF, 2021[20]).

When comparing with the 26 countries and economies (of which 12 OECD member countries) which also participated in the third international survey, Portugal performs slightly above the OECD average in the global financial literacy score (OECD, 2020[7]; CNSF, 2021[20]). When looking at the individual components of financial literacy, Portugal performs worse than the OECD average on financial knowledge. More particularly, individuals surveyed scored lower than the OECD average on questions related to the time value of money, simple interest calculations, understanding correctly both simple and compound interest, understanding risk and return, understanding the definition of inflation and risk diversification. However, Portugal reaches the OECD average on the question related to understanding interest paid on a loan. With regard to financial behaviour, adults in Portugal perform better than the OECD average. Respondents show prudent financial behaviours and a tendency to save and plan for the long term, to make considered purchases and to keep track of cash flows. On attitudes towards longer-term financial planning, respondents from Portugal also outperform the OECD average.

Financial literacy among young people in Portugal

According to both the 3rd Financial Literacy Survey of the Portuguese Population (CNSF, 2021[20]) and the Report on Financial and Digital Inclusion (Banco de Portugal, 2021[17]), levels of financial literacy of young people (aged between 16 and 24) are lower than for middle aged adults, and only higher than seniors (70 and older). More specifically, young people perform worse than other age groups on questions related to financial attitudes and behaviour. This contrasts with their levels of digital financial inclusion mentioned earlier.

The PISA 2018 financial literacy assessment also offers insights into the financial literacy of young people in Portugal. Students in Portugal scored, on average, 505 points, which was equivalent to the OECD average in financial literacy (505 points) (OECD, 2020[31]). Overall, their scores were the most similar to those of students in countries such as Australia, Latvia and the United States.

Some 14% of students in Portugal did not reach the baseline level of proficiency (Level 2) in financial literacy, compared to 15% on average across OECD countries and economies. At best, these students can identify common financial products and terms, recognise the difference between needs and wants, and make simple decisions on everyday spending in contexts that they are likely to have encountered personally. Some 8.3% of students in Portugal were top performers (Level 5) in financial literacy, compared to 10.5% on average across OECD countries and economies. These students can analyse complex financial products, solve non-routine financial problems and show an understanding of the wider financial landscape.

The results of the PISA 2018 showed that, in all countries – including Portugal -, there is still a large margin for improvement in terms of financial literacy of students, which reinforces the need to continue investing in financial education in schools. It is specifically recommended to address the needs of low-performing students, tackle socio-economic inequalities early on, provide equal opportunities for learning to boys and

girls as well as support both access to and education about safe and age-appropriate (digital) financial products.

Relevance of digital financial literacy in Portugal

The objectives of digital financial literacy policies

Implementing digital financial literacy policies will bring several benefits to the Portuguese population. It will support the improvement of knowledge and awareness on digital financial products, services and providers but also the risks they carry. Building on such awareness, digital financial literacy policies are expected to support the development of healthy habits to mitigate digital financial risk. They can also support the awareness and mitigation of behavioural biases when being online and finally, make consumers more aware of their rights and redress procedures. This Chapter discusses each of these aspects in turn.

Supporting the improvement of knowledge and awareness on digital financial products, services and providers

One of the objectives of digital financial literacy policies is to make people aware of the existence of digital financial products and services provided through digital means. This is particularly relevant, given that the COVID-19 pandemic required a fast uptake of digital tools, often without the necessary preparation and knowledge.

Digital financial literacy aims to make individuals aware of the features and risks of those digital financial products, including the basic ones. Such basic products include online payment/transfer services (for e.g. electronic money, mobile phone wallets, payment of services etc.) as well as online banking products (for e.g. current and basic bank accounts, saving accounts, mobile and home banking, credit products etc.). It also raises awareness about other digital financial services and products related to investment (for e.g. online brokers, robo-advisors, personal financial management, mobile trading), insurance and pensions (for e.g. InsurTech, peer-to-peer insurance etc.), alternative finance (for e.g. crowdfunding, peer-to-peer lending etc.) and other types of DFS (for e.g. crypto assets or other blockchain-based financial products etc.)

Digital financial literacy supports individuals to have a well-informed access to such DFS, makes them able to compare their pros and cons, their main features and risks and ultimately choose the one(s) that best fit their individual needs. Finally, it aims to support people to cope with the increasing sophistication, complexity and rapid innovation of the digital financial sector and with the arrival of new players (such as FinTechs), products and services.

Supporting the improvement of awareness of digital financial risks

Alongside improving the awareness of digital financial services and their features, digital financial literacy policies have a role in raising individuals' awareness about the diversity of risks they face when using digital tools and digital financial services. In fact, they need to understand the additional risks that they may incur when using them, which are more diverse and sometimes harder to spot than those associated with traditional financial products and services. More specifically, DFS users should be aware of the existence of different types of online fraud and cyber risks (for example when paying online). Also, DFS users should be aware of the risks they face when using DFS provided by entities operating on a cross-border basis. They should know the consequences of using DFS providers authorised and supervised by foreign supervisory authorities and what it may imply in terms of consumer protection (for example with regard to redress mechanism, complaints handling etc.).

Digital financial literacy policies also aim to raise awareness of DFS users on their digital footprint, including information they provide to DFS providers, which may also be a source of risk, even if it does not result directly in a loss (Morgan and al., 2019[35]). Indeed, consumers may not be aware of the many reasons for the use of personal data by financial companies (big data), such as marketing, pricing and personalization of financial offers.

Supporting the development of savvy habits to mitigate digital financial risk

Alongside the awareness of digital financial risks, digital financial literacy policies promote and develop skills, attitudes and behaviour (such as confidence and cautiousness) to develop savvy habits online. They encourage appropriate and resilient online behaviours to enable a safe use of digital financial products and services (through basic safety procedures) as well as an informed, conscious and responsible financial decision-making by consumers.

Digital financial literacy policies support DFS consumers to be able to appropriately manage their digital footprint and to avoid engaging in risky behaviours involving their personal data. For example, they should understand the consequences of sharing or disclosing personal identification numbers, account information, or other identifying information such as address, birth date or government-issued numbers whether digitally or through other channels (OECD, 2018[23]).

Supporting awareness about and mitigation of behavioural biases when being online

Digital financial literacy policies aim to support consumers in mitigating the behavioural and psychological biases exacerbated by the use of digital channels. Indeed, when connected, individuals may be too naïve (for example, when providing personal information) while being less risk averse, abandoning one's cautious behaviour. People can also be less patient, show less rigour and care and often do not take time to clarify doubts. They may act in a non-rational way due to for example "fear of missing out" while buying though digital channels, or due to a more limited "pain of paying" when buying goods and services online.

In order to mitigate those biases, digital financial literacy policies aim to improve individuals' awareness of those biases as well as the related risks (such as over-spending, over-indebtedness or risky behaviour). They also aim to make consumers aware that these biases are exploited in the digital world when making financial decisions.

Supporting awareness of consumers' rights and redress procedures

Digital financial literacy policies support DFS consumers to have access to accurate, reliable and comprehensive information about the full characteristics of financial products as well as to benefit from more sources of useful information. Indeed, DFS consumers can face aggressive online advertising campaigns for financial products while not including all the necessary information. Furthermore, the information available on social media and the Internet may be misleading. This is especially true in the case of new digital financial products and players.

Digital financial literacy policies aim to instil awareness of the need to read all contractual and pre-contractual information, understand terms and conditions and be aware of implications of purchasing DFS.

Finally, digital financial literacy policies support DFS consumers to react in cases where they fall victim to any kind of fraud in a digital context. Policies should aim to support DFS consumers to understand their rights when purchasing online, understand where they can complain and how to obtain redress if they fall victim to fraud or other loss. They should also understand their rights regarding their personal data, and how to complain and obtain redress against unauthorised use (Morgan and al., 2019[35]).

The contribution of digital financial literacy policies to the Portuguese economy and to the well-being of the population

Public policies to increase the level of digital financial literacy of the population should contribute to economic growth and to the well-being of the Portuguese population in many ways, including by making the population fully benefit from the opportunities offered by digital tools and DFS, as well as by increasing both financial inclusion and financial resilience, while mitigating risks that can arise from growing digitalisation. Such policies should also support citizens to make relevant decisions for retirement planning. Finally, digital financial literacy policies should contribute to the stability of the financial system and enhance the population's participation in financial markets, while playing a role in the existing digital education agenda.

Making the population fully benefit from the opportunities offered by digital tools and DFS

Digital financial literacy policies should contribute to empower individuals, households and MSMEs to fully take advantage of the benefits and opportunities offered by digital tools and digital financial services. Such benefits include:

- More convenient, faster, secure and possibly cheaper transactions.
- Services that are tailored to individual needs. The digital revolution can also allow consumers to more easily compare offers online and identify the one best suited to their needs.
- Increased opportunities for fruitful interactions between financial services providers and consumers through digital interfaces, enhancing consumers' understanding of financial products and financial decisions.
- Broader range of providers of financial services to include new entrants such as FinTechs as well as incumbent market players, contributing to lower costs, and offering improved experience to financial consumers (OECD, 2018[36]).

Improving equality of opportunities among all individuals and mitigating risks

Digital financial literacy policies should contribute to combat digital and digital financial exclusion. Indeed, vulnerable groups of the population not so familiar with the use of technology (e.g. elderly) may face a risk of financial exclusion – especially as digitalisation of financial services is accompanied by the closing of financial institutions' branches. Indeed, digital financial services can improve the reach and access of financial services by extending their availability and penetration as well as by reducing the costs of providing them to the underserved population.

Also, by focusing on the most vulnerable target groups, digital financial literacy policies will contribute to ensure a better equality of opportunities among all individuals. This is particularly relevant in the context of population ageing in Portugal (see Box 2-3).

Contributing to financial resilience and well-being of individuals

Digital financial literacy policies should contribute to enabling individuals to strengthen their financial resilience and ultimately supporting their financial well-being.

Digital financial literacy policies should help to increase people's awareness of digital financial services' characteristics, advantages and risks, and offer them the information and tools they need to understand those services and how to identify suspicious offers.

Digital financial literacy policies should also strengthen financially resilient behaviours, including budgeting, saving for both short and long term, and making safe use of credit. They should also help individuals to

address financial difficulties and over-indebtedness or support them to make informed decisions when choosing financial services and products online (OECD, 2021[6]).

Addressing some of the decision-making challenges for retirement

In a context where choices with regard to pensions become more and more individualised, digital financial literacy policies should complement policy responses to support decision-making for retirement (OECD, 2020[37]). For example, they can support the use of effective online tools such as comparison tools, calculators and simulators to compare private pension plans performance, costs, investment allocation, and other plan features in a standardised way, hence lowering the cost of obtaining information about pension plans, reducing the complexity of making a choice, and providing personal information online at all times (OECD, 2016[38]).

Contributing to the CMU action plan through capital markets development

There is strong evidence in the existing literature on the relationship between financial literacy, capital market development and participation of retail investors in stock markets (van Rooij, Lusardi and Alessie, 2011[39]; Thomas and Spataro, 2018[40]). Although there is no such extensive evidence on the relationship between the levels of digital financial literacy and participation of retail investors in stock markets, one can expect a similar relationship is likely to exist. This could also be an opportunity for businesses, including MSMEs, to access alternative funding sources for supporting their cash flow and risk capital needs (OECD, 2018[36]). It will contribute to fulfil the objectives of the Capital Market Union (CMU) action plan[29], notably the Key Objective 1 to support a green, digital, inclusive and resilient economic recovery. It will also participate to the Action 7 of Objective 2 by empowering citizens through financial literacy.

Contributing to financial stability

The Portuguese National Plan for Financial Education acknowledges that "*well informed citizens, through the choice of financial products suited to their risk profile and needs, help to monitor the markets, thus contributing to the greater stability of the financial system*" (CNSF, 2011[41]). Given the significant digitalisation of the financial sector, the same rationale is also applicable in a digital context.

The stability of the financial system is intrinsically linked to the quality of financial decision-making at the individual level. For instance, bad individual financial decisions that may lead to high levels of private indebtedness or difficulties in repaying a loan can adversely affect the soundness and profitability of the banking system and its ability to lend. This can threaten financial stability and reduce the inclusiveness and sustainability of economic growth.

Also, many individuals show a lack of trust in digital channels and are unwilling to use digital financial services. Any widespread loss of confidence in digital tools could reduce e-commerce and potentially dampen economic growth and the stability of the banking system. Digital financial literacy policies should contribute to improve trust in the use of digital channels and digital financial services and ultimately in the financial system. Increased trust ultimately contributes to financial stability. Even if (digital) financial literacy cannot function alone to support financial stability, building trust is a primary condition for the overall system's stability, particularly in today's digital age.

Complementing the existing education initiatives and the agenda to improve digital skills

Raising digital financial competences will also contribute to complement some of the numerous Portuguese initiatives to promote digital skills (see Box 2-2).

Box 2-3. Demographics in Portugal

According to the provisional results of the 2021 Census, around 10.3 million people live in Portugal. Over the last decade, the population living in Portugal has decreased by 2.1%. The net migration, although slightly positive, was not sufficient to reverse the population decline. The distribution of the population across the territory registers a significant disparity, with a concentration of the population on the coastline and closer to the capital.

The population's level of education has increased significantly over the last ten years, with the higher education and secondary and post-secondary education population increasing the most (INE, 2021[42])

In 2022, life expectancy at birth in Portugal is around 81 years. Life expectancy for women is 84.1 years, compared to 78 for men (OECD, 2022[43]; World Bank, 2022[44])

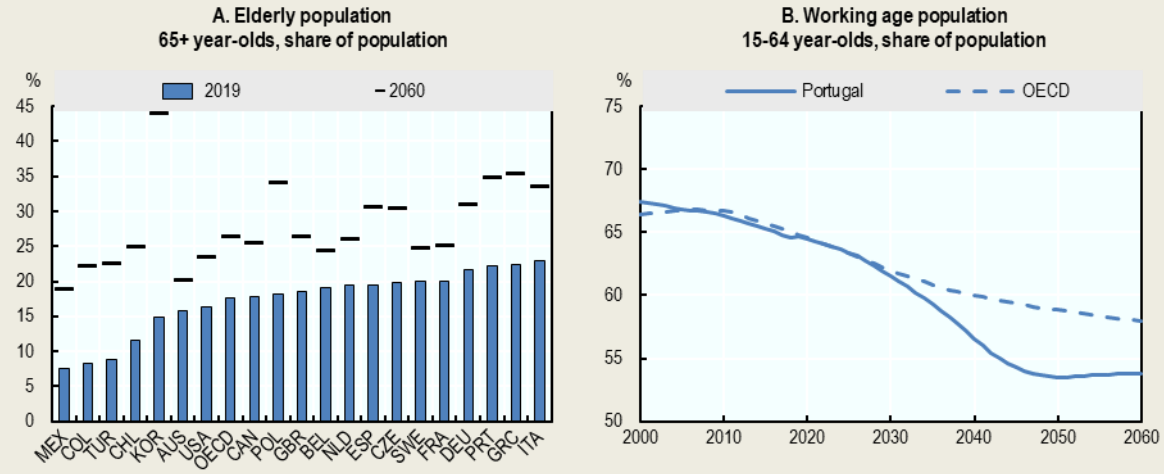
An ageing population

In the last ten years, the evolution of the population age structure emphasised a reinforcement of demographic ageing. This consists of the "double ageing" process, characterised by an increase in the elderly population and a reduction in the young population. Between 2011 and 2021, there was a decline in all age groups except for the elderly population group (65 and over), which grew by 20.6%. The group of young people (0-14 years) had the most significant reduction (-15.3%). The decrease of the population aged 15-24 years was -5.1% and -5.7% for population aged 25-64 years. In 2021, the elderly population represented 23.4% and young people (0-14 years old) 12.9%.

Demographic ageing in Portugal is expected to increase. According to the provisional results of the 2021 Census, the population ageing ratio, which compares the population aged 65 and over to the population aged 0-14, is 182, i.e., 182 elderly people per 100 young people. This ratio was 128 in 2011 and 102 in 2001 (INE, 2021[42]).

Population ageing can bring numerous challenges to different actors. From the point of view of the State, it may affect the sustainability and resilience of pension systems and social protection systems in general (OECD, 2020[37]; OECD, 2021[45]). Older individuals may be affected in terms of financial vulnerability/insecurity, financial exclusion, poor financial decision-making due to cognitive and physical declines, etc. while working age individuals need to financially plan for old age as soon as possible, to adapt and learn throughout life in order to be digitally and financially equipped in old age, etc. (OECD, 2022[46]). Against this background, (digital) financial education is considered an important tool to provide everyone with practical skills to manage personal finances in a changing pension and financial landscape, to encourage long-term financial planning, or to prevent financial abuse and fraud (G20, 2019[47]).

Figure 2-3. Demographic trends in Portugal



Source: *OECD Economic Surveys: Portugal 2021,* OECD (2021[8]).

3 Digital financial education provision in Portugal

The mapping exercise

Mapping existing financial education initiatives and relevant stakeholders is a prerequisite to the establishment of a financial literacy strategy and is ideally conducted during its design phase. Beyond taking stock of financial education provision, mapping exercises can also gather stakeholders' views on current needs and provision as well as on the future of financial literacy policy and practice (OECD, 2020[2]). A majority of jurisdictions with a national strategy have undertaken a mapping of existing resources, initiatives and stakeholders already involved in financial education (OECD, 2015[3]). The most commonly used tools to do so are consultations with stakeholders and calls for evidence, desk research, and national conferences and workshops open to organisations with a mandate or an interest in financial education.

The stocktaking survey

The mapping of digital financial education provision in Portugal took place through a national stocktaking survey of stakeholders involved in digital financial education. The stocktaking questionnaire (see Annex A) was distributed in December 2021 and responses were collected until January 2022. It was distributed by the Banco de Portugal to national stakeholders that were identified based on criteria such as their public or regulatory nature, their proven expertise, commitment and credibility to deal with digital financial education issues, relevance of their activities to consumers or their involvement as partners in the implementation of the existing financial education strategy in Portugal. The stocktaking survey asked respondents to focus on two types of financial education initiatives:

- Those related to the provision of education, information and awareness material covering the use of digital financial services and
- Those related to the provision of financial education through digital tools, covering any topics, not just the use of DFS.

For the sake of simplicity, the rest of the report refers to "digital financial education" to mean the financial education initiatives that consist exclusively or quasi-exclusively in providing education, information and awareness material on the use of digital financial services.

Sixteen stakeholders (see Annex B) in total responded to the survey and provided information on their expertise, involvement and/or interest in the provision of digital financial education in Portugal and/or the topic of digital financial literacy. For the purposes of this report and its analysis, the initiatives reported by nine of these stakeholders were taken into account.

Stakeholder workshop

Respondents to the questionnaire were subsequently invited to a hybrid workshop held on 8 March 2022 at the Money Museum of the Banco de Portugal.

The workshop also gathered representatives from the authorities and organisations that responded to the survey, experts from the OECD Secretariat and the European Commission, representatives from the Banco de Portugal as well as international delegates[30] from the OECD International Network on Financial Education (OECD/INFE). The preliminary results of the stocktaking survey were presented, and participants discussed the current provision of digital financial education initiatives in Portugal. A panel discussion among participants also explored the way forward and the relevance of the future strategy.

Actors active in the provision of digital financial education in Portugal

Digitalisation aspects within the Portuguese National Plan for Financial Education

Recognising the trends previously mentioned, the successive waves of the Portuguese National Plan for Financial Education have gradually integrated components related to digital financial services and digital financial literacy.

The first National Plan for Financial Education (CNSF, 2011[41]), prepared by the National Council of Financial Supervisors (CNSF), established the remit of the National Plan in 2011, with an initial time horizon of five years (2011–2015). Among the other objectives[31] of the first National Plan, progress was made towards enhancing digital delivery of financial education notably with the launch of the *Todos Contam* website[32] in 2012, featuring financial education content designed for all target groups and the launch of the *Todos Contam* e-learning platform in 2015, especially designed to train trainers and teachers.

In June 2016, a second wave of the National Plan for Financial Education presented the guidelines for 2016-2020 (CNSF, 2016[48]). One of the two additional areas to be taken into account in the objectives of the Plan was digital financial services. The Plan recognised for the first time that the increasing use of digital channels for accessing financial services was a challenge to take into account in financial education. This challenge runs across all target groups and is especially important in courses designed for young people, the most frequent users of new technologies. The Plan also considered that the increasing use of digital financial services may require focusing on the safety of transactions and the greater ease in acquiring products and accessing credit.

Therefore, the objective to deepen knowledge and skills in using digital financial services was added to the objectives of the second wave of the Plan. The Plan highlighted the importance of raising awareness about digital financial services and the ways to use them safely. It also emphasised the importance of raising awareness about the risks of using digital financial services linked to the easier access to credit and impulsive buying. Furthermore, the Plan introduced a dedicated Chapter on “digital media”, recognising its importance in the Plan’s communication strategy and for implementing and sharing financial education initiatives. Strengthening the digital media strategy was one of the key priorities for the new phase of the Plan, which has been particularly reflected in the main areas of action targeting specific audiences.

New strategic guidelines further enriched the National Plan for 2021-2025 (CNSF, 2022[49]). First, the guidelines list new challenges that have emerged and that should also be addressed in the third wave of the Plan. Among the various challenges, the guidelines point out the acceleration of the digital transformation of the financial services sector, particularly as a result of the COVID-19 pandemic. The guidelines emphasise that although digital channels are more convenient and provide faster use of products and services, using them also carries risks, including cybercrime and fraud. They also acknowledge that the greater speed and ease in accessing products and services through digital channels

also tends to exacerbate behavioural biases (such as impulsive decision-making) and may lead to excessive borrowing. Finally, the guidelines state that greater digitalisation does not benefit the population equally, exposing those with lower digital skills to greater risks, and even excluding those who are not digitally literate.

In order to cope with these challenges, the Plan 2021-2025 aims to promote digital financial education. It intends to empower the population with the acquisition of know-how, skills, attitudes and behaviour required to properly use digital financial services and digital technologies in the context of personal financial decision-making. It also focuses on strengthening people's skills and knowledge for a safe and confident use of digital financial products and services (including both traditional products with new characteristics or new products and digital players). In this respect, the guidelines list several strategic training priorities that will contribute to empowering the population to use digital financial services, adopt behaviours to protect their personal data, prevent fraud and cybercrime and take into account their financial decisions and the behavioural biases to which they may be more exposed to in digital channels. The training priorities for 2021-25 are as follows:

- Promote well-informed access to financial products and services through digital channels.
- Promote the safe use of digital financial products and services, encouraging appropriate cybersecurity and online fraud resilient behaviours.
- Raise awareness of behavioural biases stimulated by the access to digital channels.
- Disseminate the features and risks of new digital financial products and services (e.g., crypto-assets, digital currency, payment initiation and aggregation services, InsurTech).
- Raise awareness of the emergence of new service providers in this market and the growing cross-border offer of financial products and services.
- Contribute to digital financial inclusion by mitigating the different levels of digitalisation of the population.

To accomplish these new priorities, the guidelines present a set of specific actions to be implemented over the 2021-2025 horizon. First, the guidelines recognise that since its inception, the Plan has not been able to reach all audiences. It acknowledges that partners have not yet been found for some target audiences, particularly for young people finishing compulsory education and vulnerable groups. This explains why for the next years, one of the main goals is to establish new partnerships (or strengthen the work carried out under existing partnerships) in order to increase the scale and capillarity of financial education initiatives. In order to scale up and disseminate financial education messages to wider audiences, the guidelines also aim to intensify the digital delivery of existing or new initiatives with an increased use of the Internet and social media (while not neglecting campaigns or more traditional media).

The specific actions consist of a list of target audiences for which concrete lines of actions are foreseen:

- Young people in school, through for example the review of the Core Competences for Financial Education to strengthen digital financial literacy or the boost of teachers' training programmes, as well as beyond school with awareness raising campaigns targeting young people (notably on social networks).
- Employees, unemployed or MSMEs through e.g. the establishment of new partnerships, the Review and update of Short-term Training Units (UFCD) of the Financial Education Competence Framework or the integration of relevant topics related to DFS in existing training programmes.
- The whole population through new partnerships with institutions that support citizens as well as local authorities.

The guidelines conclude with an emphasis on goals and assessment matters. They set as a priority to step up the evaluation of each of the initiatives, with an emphasis on assessing, where possible, the knowledge before and after each training initiative carried out. The Plan is also open to participating in assessment

exercises of the national financial education strategy that may be offered within the framework of international fora, based, inter alia, on peer reviews.

Public entities' activities contributing to increasing digital financial literacy in Portugal

According to the results of the stocktaking exercise, public entities in Portugal are active in the design and implementation of digital financial education initiatives. These range from the provision of information, education and awareness material covering the use of digital financial services through consumer websites, to the development of pedagogic materials for students and teachers, and to the direct involvement in the training of target audiences.

Public entities of the National Council of Financial Supervisors contributing to increasing digital financial literacy in Portugal

Among public authorities involved, the three financial supervisors composing the CNSF play a crucial role in the design and delivery of digital financial education in Portugal. Indeed, besides their leading role in coordinating the implementation of the Plan's general guidelines, they are also partners and/or supporters of many initiatives implemented by other public entities and private/non-for-profit sector initiatives. Furthermore, they also conduct their own digital financial education initiatives:

- Besides its active role in the promotion of the National Plan for Financial Education (together with ASF and CMVM), the **Banco de Portugal** promotes the financial information and education of the population, as a component of its financial consumer protection policies within the scope of its banking conduct supervision mandate. In this respect, promoting the digital financial literacy of bank customers was a line of action adopted within the key priorities set out in the Banco de Portugal's Strategic Plan for 2017-2020 (Banco de Portugal, 2017[50]). In this context, the Banco de Portugal started a digital financial education programme to deepen bank customers' knowledge and skills when using digital financial services, as well as to create precautionary habits against online fraud. One of the first initiatives implemented within this programme was the launch, in 2018, of a comprehensive campaign (#toptip campaign) with a set of 5 tips for staying safe online, targeted at secondary school students, from which teaching materials were developed and awareness-raising actions undertaken. This campaign was especially focused on young people, as they are the population group with the greatest capacity and ease to use new technologies, but they may be less concerned with online risks. The Banco de Portugal has been also carrying out financial education campaigns targeting adults, mainly through awareness raising messages on online security risks disseminated through the Bank Customer Website[33] and social media. The trend towards digitalisation was accelerated by the COVID-19 pandemic, which exacerbated the risks arising from the use of digital channels and digital financial services. In this context, the Banco de Portugal reinforced the priority of promoting digital financial education in its strategic plan for 2021-2025 (Banco de Portugal, 2021[51]), including the design and implementation of a digital financial education strategy for Portugal as one of its strategic priorities.
- Alongside its involvement in the National Plan for Financial Education, the **Portuguese Securities Market Commission** conducts its own digital financial education initiatives. As part of its mandate to ensure a fair treatment of investors, the CMVM aims to promote financial literacy in Portugal, as provided in its Strategic Plan 2022-2024 (CMVM, 2022[52]). Through its website, it provides information to improve financial consumers' knowledge on cautious and good investment practices (including online), the mechanisms that protect them, and the financial products in which they can invest. Resources include specific leaflets (for example on FinTech[34] or digital fraud[35]), specific Q&A sessions (for example on digital investments[36]) as well as a Glossary[37] to help consumers understand terminology and jargon on capital markets and financial instruments. CMVM also

participates annually in the World Investor Week[38] where good practices when using digital channels are discussed.

- Alongside its involvement in the National Plan for Financial Education, the **Portuguese Insurance and Pension Funds Supervisor** also provides different digital financial education initiatives. Through a consumer alerts area on its financial education portal, the ASF transmits up-to-date information to consumers on relevant matters in the areas of insurance and pension funds. More specifically, the *Segure-se Bem* campaign seeks to increase technical knowledge about the insurance sector, providing consumers with the necessary knowledge to make more informed and appropriate financial decisions. The campaign includes information[39] on the use of digital channels. The ASF also provides three mobile applications that allow users to access information and useful services in the context of insurance, reinsurance, pension funds and insurance intermediation activities in Portugal. For example, the *Os Meus Seguros* app enables users to manage all their insurance contracts on a single platform and provides policy renewal and payment alerts.

Other public entities contributing to increasing digital financial literacy in Portugal

- The **General Secretariat of the Ministry of Labour, Solidarity and Social Security** (SG-MTSSS) provides technical and administrative support to various bodies of the ministry on areas such as human resources, finance, procurement and training. On 3 December 2020, a collaboration Protocol was signed between the CNSF and SG-MTSSS, with the aim of promoting the financial training of employees of the 22 organisations that are part of that Ministry. The SG-MTSSS is responsible for training approximately 25 000 employees of the various bodies of the MTSSS. The partnership promotes financial training in the workplace through a distance e-learning platform with the provision of thematic content of a cross-cutting nature and on specific topics related to digital financial literacy.
- The **Directorate General for Education of the Ministry of Education** promotes financial education in schools since 2011. The Ministry of Education and the CNSF have been promoting the training of educators and teachers, with the aim of enabling them to teach financial education within the framework of education for citizenship, using the Portuguese Core Competencies for Financial Education in the educational system. More recently, the Ministry of Education and the CNSF have devoted more efforts to promoting digital financial literacy and explaining the precautions to be taken in digital channels and when making payments online. In particular, the Ministry of Education has implemented remote training and information sessions aimed at teachers, as part of their ongoing teacher training scheme.
- The **National Institute of Administration**'s (INA) fundamental mission is the creation, transmission and dissemination of knowledge in public administration, contributing, through training, teaching, scientific research and technical advice, to the innovation and modernisation of public administration and to the qualification, training and enhancement of public administration staff and managers. In its Training Plan for 2022, INA has foreseen the development of training in digital skills through the "Info Exclusion Zero Program", aimed at public workers with low levels of digital literacy and which expects to benefit in particular operational assistants (those in direct contact with the public). Through the development of digital skills of more than 100 000 public administration employees, it is expected to indirectly contribute to increasing digital financial literacy.
- The **Institute of Employment and Vocational Training** (IEFP) is the national public employment service. Its mission is to promote the creation and quality of employment and combat unemployment, through the implementation of active employment policies, namely professional training. In partnership with the CNSF, the IEFP has included content on digital financial literacy in its training courses and in training of trainers' courses, with the ultimate goal to increase the digital financial literacy levels of employees attending the vocational training service.

- The **Faculty of Economics of the University of Porto** cooperates with the Foundation Dr. António Cupertino de Miranda on projects for the promotion of financial literacy and digital financial literacy targeting a variety of audiences, notably the young and the elderly.

Private and not-for-profit sectors contributing to increasing digital financial literacy

Private and not-for-profit sector entities in Portugal are active in the design and implementation of digital financial education initiatives. These range from the provision of information through websites, to the development of pedagogical materials for students and teachers, to the direct involvement in training target audiences.

- The **Portuguese Association of Banks** (APB) represents the banking sector in Portugal. The association has launched a digital financial literacy programme in September 2021. Aimed at a senior audience, this program aims to convey a set of basic notions that allow them to carry out some of the essential day-to-day banking operations through online channels. Furthermore, in 2022 the APB launched a new website[40] on financial education. It notably includes short videos on online accounts and payments and online security, among other topics.
- The **Portuguese Association of Investment, Pension and Property Funds** (APFIPP) represents the interests of companies in the asset management area, including securities and real estate investment funds, pension fund and asset management companies. While some of the actions of the association in the digital domain have focused on promoting financial education initiatives through digital channels and social networks, since 2020 APFIPP has developed a set of webinars aimed at actual and potential retail investors, young people and the general public and notably focusing on raising awareness about aspects related to cybersecurity and behavioural finance.
- The **Portuguese Association of Insurers** (APS) is a non-profit association, which promotes the interests of insurance and reinsurance companies operating in the Portuguese market. In 2012, the association started a book collection project with the objective to raise children's awareness about the importance of insurance as a means of anticipating, mitigating or compensating risk situations as well as to provide schools and families with an appropriate tool for understanding the importance and social value of insurance. The APS also cooperates in programmes of other entities that aim to promote digital financial literacy.
- The **Association of Specialised Credit Institutions** (ASFAC) is a financial sector association representing the specialised credit sector in Portugal. The association has developed several financial literacy initiatives and established many partnerships with other associations, institutions (e.g. Junior Achievement Portugal, Pressley Ridge) and schools to hold various sessions and initiatives on financial literacy, including digital financial literacy, to provide children, young people and families with the necessary tools for a good financial education.
- The **Dr. António Cupertino de Miranda Foundation** is a private, independently financed institution, whose aims are both cultural and educational. It has been implementing financial education programmes since 2010, with differentiated approaches for teachers and students, for people aged 55 or over and for people with cognitive impairment. The Foundation has notably designed two important financial education initiatives: one targeting children and young people and another one aiming to promote and enhance the financial literacy levels of the senior population aged 55 or over, on low incomes, in a context of social vulnerability and at risk of financial and digital exclusion, with a particular focus on the female population.
- The **Portuguese Association for the Defense of Consumers** (DECO) is a consumer association, notably providing financial advice to consumers in situations of special economic vulnerability or over-indebtedness. It also developed two educational programmes that include

digital finance aspects: One targeting adults (consumers), businesses, trainers in municipalities and regional public companies and one targeting children and young people. Also, whenever a situation of fraud and cybercrime occurs, whether in the field of financial services or others, DECO launches an alert through its information channels and in the media, while complaining to the relevant authorities. DECO is also involved in the *Eu Sou Digital* programme (see Box 2-2), acting as a digital centre and contributing to improving digital literacy. DECO is represented throughout the national territory (7 regional offices) and has a partners' network involving 68 municipalities and regional public companies (for instance, water manager entities). DECO is responsible for training the trainers of its regional offices and the partners' network, who are then responsible for the dissemination of financial education among the collaborators and consumers in general.

Existing forms of cooperation

Respondents were asked whether they cooperate with other public, private or not-for-profit stakeholders in areas related to digital financial literacy. Most of the responding institutions, from the public, not-for-profit and private sectors, strongly engage in forms of cooperation in the design or delivery of digital financial education initiatives. It should be noted that most of the cooperation observed falls under the scope of the National Plan for Financial Education.

Examples of cooperation between public entities

- Cooperation (protocol) between the Ministry of Education and CNSF within the scope of financial education in schools. The four institutions cooperate to offer training courses to teachers as part of their training scheme. These courses aim at training teachers to work in an area of knowledge that is often very different from their initial education. They are delivered both face-to-face and digitally and, among other topics, cover aspects related to the use of digital financial services, the management of personal data as well as awareness about online fraud. Furthermore, a series of webinars focusing mainly on digital financial education has also been offered to teachers in 2020 as a result of this cooperation. The webinars cover safety tips when making digital payments, the growing importance of social networks as investment and financial education tools, new financial intermediation business models and new trends in investment (such as crypto-assets). Other forms of cooperation also include the definition of core competences for schools and the development of didactic and pedagogical materials for students.
- Cooperation (protocol) between the General Secretariat of the Ministry of Labour, Solidarity and Social Security and the CNSF within the scope of financial education in the workplace. Through an e-learning platform, the three financial supervisors provide workplace training to all Ministry workers who wish to attend. The training aims to increase the level of financial knowledge and promote financially adequate attitudes and behaviours. It focuses mainly on the management of financial resources (saving, credit etc.) but also includes content related to the use of digital financial services.
- The CNSF delivers training courses, which also cover the use of DFS, to trainers of managers of micro, small and medium-sized enterprises, in the scope of its partnership with the Ministry of Economy (through the Public Agency for Competitiveness and Innovation and the Portuguese Tourism Agency) under the Portuguese National Plan for Financial Education.
- The CNSF also delivers training courses to trainers of the unemployed and other vulnerable groups, within the scope of its partnership with the Institute for Employment and Vocational Training.

Examples of cooperation between private entities, or between private and not-for profit entities

- The Portuguese Association of Investment, Pension and Property Funds and Euronext Lisbon cooperated to develop a set of webinars, entitled “Invest Talks”, integrated in the “World Investor Week” in Portugal. Among other topics, the webinars also covered some basics of cybersecurity.
- The Association of Specialised Credit Institutions cooperated with Junior Achievement Portugal to implement the “Economy for Success” education programme for young students. It also cooperated with an NGO (Pressley Ridge) to implement the “COOL.BRAVE – together we create change” education programme for vulnerable groups of young people.

Examples of cooperation between public, private and not-for-profit entities

- The Dr. António Cupertino de Miranda Foundation cooperates with a wide range of actors such as the Banco de Portugal, the Directorate-General for School Establishments in Northern Portugal, the University of Porto, the Portuguese Insurers Association, most municipalities in the Northern Region and a network of public and private contacts. For instance, within the scope of the Foundation’s initiative *Eu e a minha reforma*, the Banco de Portugal cooperates with training sessions on the use of digital channels, the Portuguese Insurance Association also conducts training sessions on insurance, and the University of Porto is involved in both the review of the content of the initiative (Faculty of Economics) and the evaluation of the initiative (Faculty of Psychology and Education Sciences) (see Box 3-1).
- The Portuguese Banking Association cooperates with a set of public and private entities, such as Parish Councils, Senior Universities, the Network of Municipal Libraries, some social sector entities, private sector foundations and other associations for the implementation of its digital literacy programme for senior people. These entities provide support in the dissemination of the initiative and some organise in-person sessions so that participants can attend the digital literacy sessions (which are made available online). The programme aims to promote a set of basic digital competences, to contribute to equipping the target group on the use of digital channels and to raise awareness about the importance of adopting more informed and safer financial behaviours.

Overview of digital financial education initiatives in Portugal

Scope of initiatives

For the purpose of this report, initiatives are split according to the following classification:

- Initiatives that consist exclusively or quasi-exclusively in providing education, information and awareness material on the use of digital financial services. This represents eight initiatives, listed in Annex C
- Initiatives about providing digital and traditional education, information and awareness material on a broad range of issues, including on the use of digital financial services. This represents ten initiatives, listed in Annex D

Table 3-1 provides an overview of these two categories of initiatives.

Two respondents to the questionnaire also submitted seven initiatives that have not been taken into account for the purposes of this report. The rationale for not doing so was that those initiatives are either about i) providing general financial education, information and awareness material but not on the use of digital financial services or ii) because they do not really amount to financial literacy, as they do not cover any financial products or services. Among these initiatives are those targeted at specific professions such

as e-learning initiatives to support them to address the question of financial education or the publication of a document to emphasise the role and importance of certain professions in financial education. Among those initiatives are also included online sessions with schools as well as a vocational training on various basic financial literacy topics.

Table 3-1. Overview of initiatives

Respondent	Initiative
Initiatives that consist exclusively or quasi-exclusively in providing education, information and awareness material on the use of digital financial services (8)	
Banco de Portugal	Dedicated areas of fraud prevention and digital security in the Bank Customer Website of Banco de Portugal and in the website *Todos Contam* of the National Plan for Financial Education
Banco de Portugal	#toptip campaign on digital financial education
Banco de Portugal	Online awareness campaigns on cybersecurity risks
Banco de Portugal	Training on the safe use of digital channels and fraud prevention
Directorate-General for Education (in cooperation with the Banco de Portugal and the CMVM)	Teacher training program - Webinar series
Portuguese Association of Investment, Pension and Property Funds – APFIPP (in cooperation with Euronext Lisbon and MoneyLab)	Set of webinars
Portuguese Association of Insurers - APS	Two books *Armadilha digital* ("Digital Trap") and *Talvez uma app* ("Perhaps an app") under the book collection *Seguros e Cidadania*
Portuguese Banking Association – APB (in cooperation with parish councils -*juntas de freguesia*-, universities for the senior or local libraries network)	Digital Literacy Programme for senior people: "Everything you need to know about online banking"
Initiatives about providing digital and traditional education, information and awareness material on a broad range of issues, including on the use of digital financial services (10)	
Banco de Portugal	Social media advertising campaigns
Banco de Portugal (in cooperation with the Ministry of Labour, Solidarity and Social Security, Ministry of Economy and Institute for Employment and Vocational Training)	Training through digital channels
Directorate-General for Education (in cooperation with the CNSF)	Teacher training courses on contents of Core Competencies for Financial Education
Dr. António Cupertino de Miranda Foundation (with the support of the *Portugal Inovação Social*, through the European Social Fund, from 2020 to 2022, and in cooperation with Banco de Portugal, Portuguese Insurers Association and the Faculty of Economics of the University of Porto.)	Financial education program: *Eu e a Minha Reforma* ("Me and my retirement")

Dr. António Cupertino de Miranda Foundation (In cooperation with the Faculty of Economics of the University of Porto)	Financial education programme: *No Poupar Está o Ganho* ("A penny saved is a penny earned")
General Secretariat of the Ministry of Labour, Solidarity and Social Security and Banco de Portugal (in cooperation with the CNSF)	Online training - Financial education in the workplace
Association of Specialised Credit Institutions – ASFAC (in cooperation with Junior Achievement Portugal)	Education programme "Economy for Success"
Association of Specialised Credit Institutions – ASFAC (in cooperation with Pressley Ridge)	Training programme: *COOL.BRAVE – Juntos criamos mudança* ("Together we create change")
Portuguese Association for the Defense of Consumers - DECO	Educational program: *DECO Jovem*
Portuguese Association for the Defense of Consumers - DECO	Educational program: *DECO Forma*

Source: Stocktaking survey on existing digital financial education activities in Portugal

Types of initiatives

The eighteen initiatives covered in this chapter include the following types of initiatives:

- Carrying out (online) training or elaborating modules and elements to be inserted in training sessions or educational programs and curricula. They are addressed at different audiences (such as teachers, students, children, public employees, elderly etc.) and include topics to improve their digital financial literacy.
- Providing information on the use of DFS and other digital matters, e.g. through webinars, online sessions, e-books etc.
- Conducting communication and awareness campaigns and alerting on specific topics mainly through dedicated website pages or posts on social media.
- Participation in events such as the Global Money Week or the World Investor Week.

Importantly, some initiatives were reported as one single initiative but contain different elements that could be considered initiatives in themselves. Furthermore, there may be a (partial) overlap of initiatives notably when they are offered under a cooperation protocol. The presentation of initiatives aims to be as streamlined and comprehensive as possible while quoting relevant stakeholders and initiatives when needed.

Another important consideration is that intensity levels between initiatives may vary considerably. While some initiatives are large programmes including different projects (for example, training programmes consisting of different projects for different audiences), others are less intense in terms of both frequency and impact. Although they are considered on an equal footing in the following graphs, it is important to keep in mind that they differ in terms of intensity, resources, duration, etc. Finally, it is important to mention that many initiatives do not end with their implementation, as they are still available online (for example YouTube videos). In this sense they may be considered as ongoing.

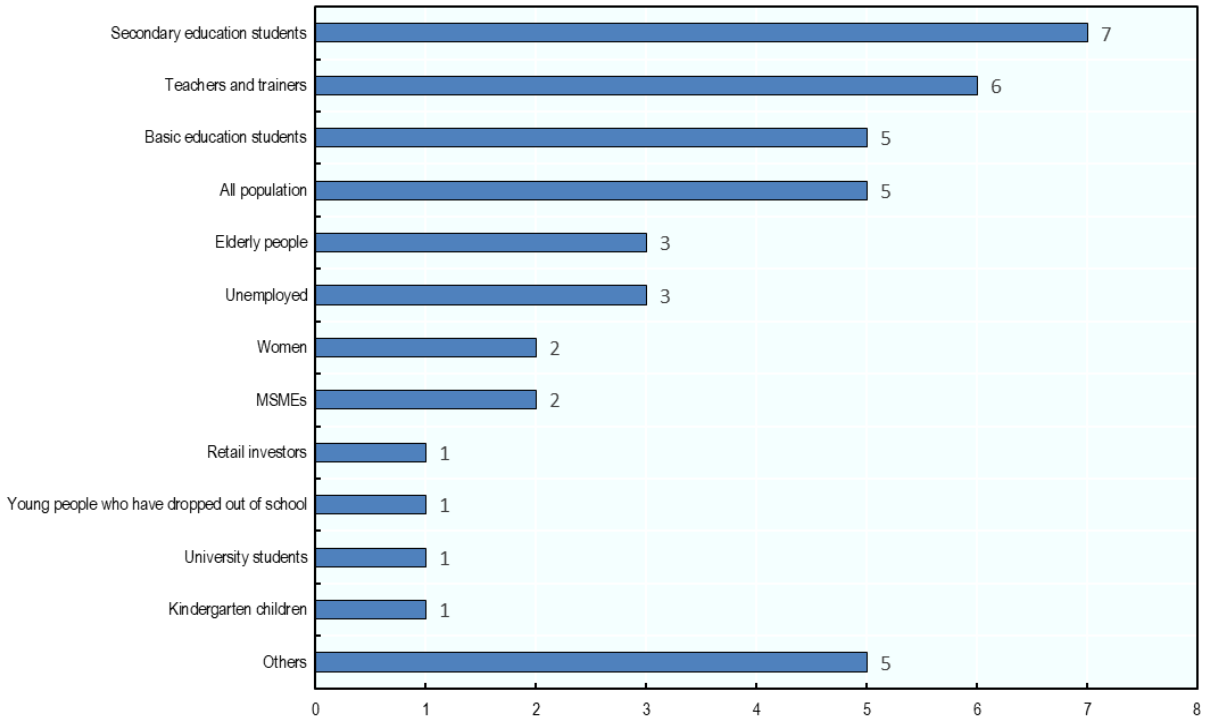
Digital financial education initiatives by audience, topics and channels

Target audiences

The provision of digital financial education in Portugal is mainly targeted at young people, mostly in the formal school system (Figure 3-1). Young people in basic education are the target group of five different initiatives while young people in secondary education are the target group of seven different initiatives. Furthermore, while a couple of initiatives target teachers only, young students are the ultimate target audience. Five initiatives target the general population, and the remaining ones target specific categories of the population defined either by socio-economic characteristic or by their financial vulnerability. These are in descending order by number of initiatives: elderly citizens (3 initiatives), the unemployed (3), women and micro and small entrepreneurs (2).

Figure 3-1. Target audience of initiatives covering DFS

Number of initiatives covering DFS (both partially and exclusively) targeting the indicated audience



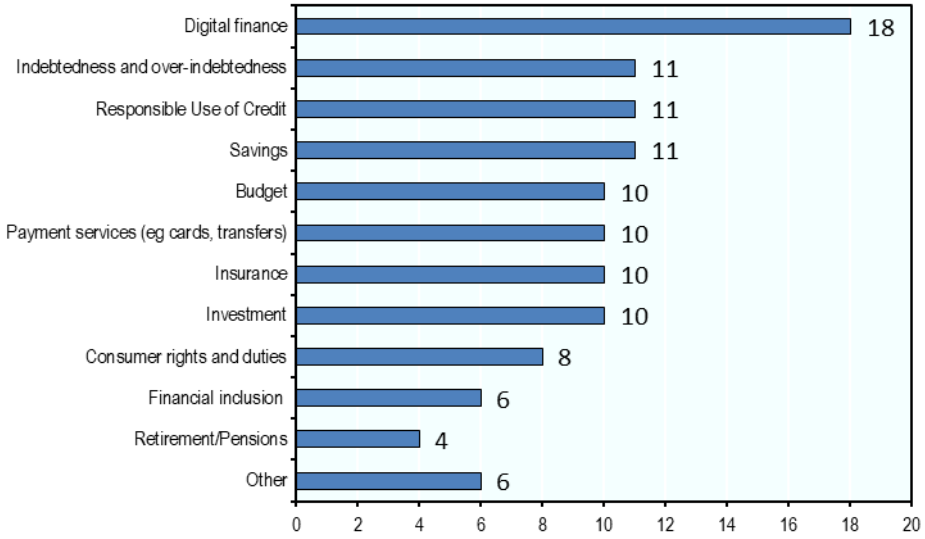
Note: N=18. Multiple answers possible. “Others” include certain vulnerable consumers, student/children families, and specific categories of employees.
Several initiatives are developed to target a specific audience (e.g. young people), but also end up also being appropriate for the general population
Within certain initiatives, specific sub-target audiences are also included under broader ones (e.g. under elderly, those who are struggling with debt or who are digitally excluded).
Source: Stocktaking survey on existing digital financial education activities in Portugal

Topics

When looking at all the initiatives, the topics covered are in descending order by number of initiatives (Figure 3-2): digital finance (exclusively or combined with other financial literacy topics), indebtedness/over-indebtedness (11 initiatives), responsible use of credit (11), savings (11), budget (10), payment services (10), insurance (10), investment (10), consumer rights and duties (8), financial inclusion (6) and retirement (4).

Figure 3-2. Topics covered by the initiatives

Number of initiatives that cover the specific topic

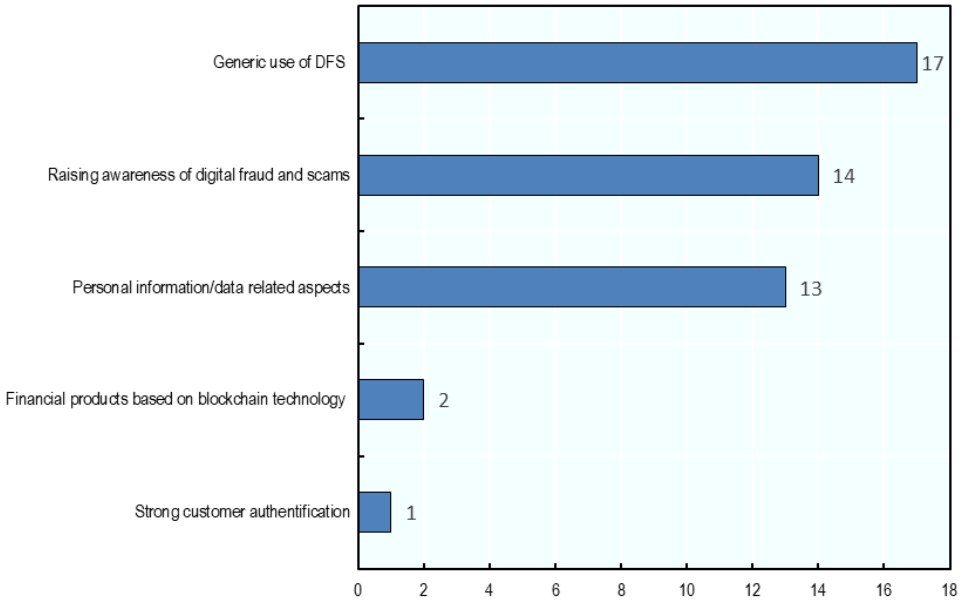


Note: N=18. Multiple answers possible. “Other” includes basic bank account, contactless payment, behavioural finance, financial innovation.
Source: Stocktaking survey on existing digital financial education activities in Portugal

When looking at the specific sub-topic covered under digital finance (Figure 3-3), the main topics covered are in descending order by number of initiatives: The generic use of digital financial services (17 initiatives), awareness of digital fraud and scams (14), aspects related to personal information and data (13), blockchain-based financial products (2) and strong customer authentication (1).

Figure 3-3. Number of digital financial sub-topics covered by the initiatives

Number of initiatives that cover the specific digital sub-topic



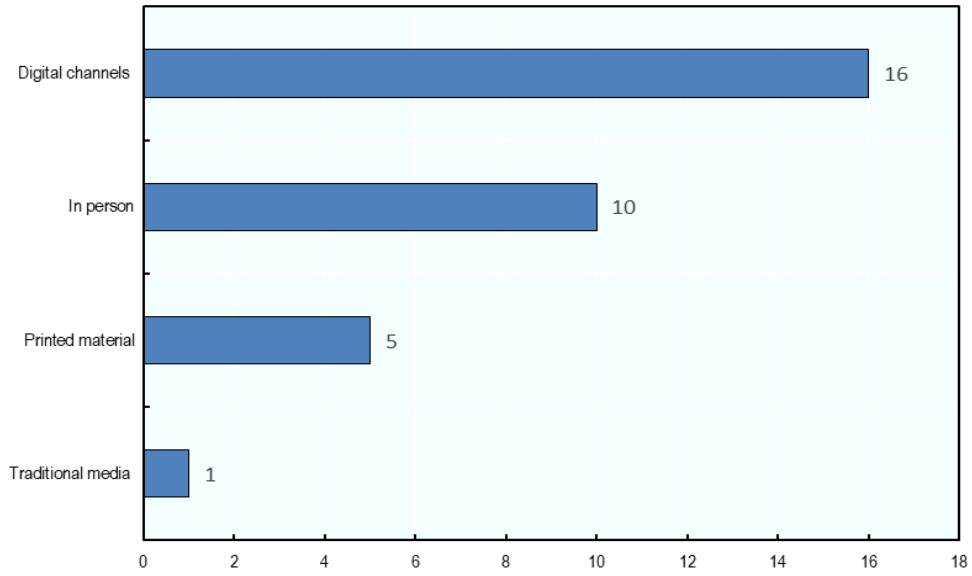
Note: N=18. Multiple answers possible.
Source: Stocktaking survey on existing digital financial education activities in Portugal

Main delivery channels used

When looking at the delivery channels used to deliver the initiatives Figure 3-4, the main channels used to deliver the initiatives are in descending order by number of initiatives: digital channels (16 initiatives), face-to-face (10), printed material (5), traditional media such as radio/TV (1).

Figure 3-4. Main delivery channels used

Number of initiatives that use the specific delivery channel

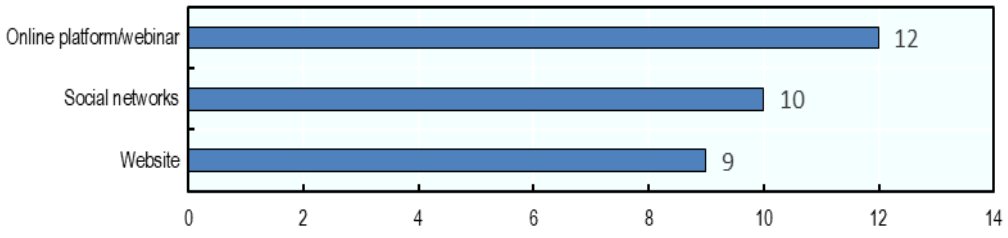


Note: N=18. Multiple answers possible.
Initiatives using mass media to disseminate the existence of the initiative were not included under "traditional media" as they are not used to deliver the initiative as such.
Source: Stocktaking survey on existing digital financial education activities in Portugal

When looking more specifically at the digital channels used (Figure 3-5), the main channels used are online platforms and webinars -such as the *Todos Contam* e-learning platform- (12 initiatives), social networks (10) and websites (9).

Figure 3-5. Digital delivery channels

Number of initiatives that use the specific digital delivery channel



Note: N=17. Multiple answers possible.
Source: Stocktaking survey on existing digital financial education activities in Portugal

Reaching digitally excluded audiences

The questionnaire asked about the different ways used to reach target audiences with limited digital skills or limited access to digital tools and media. First, it is worth mentioning that several initiatives have no means in place to reach digitally excluded audiences.

For initiatives that have mechanisms to reach digitally excluded audiences, respondents indicated two main ways to reach them. One of the most favoured ways is to provide a "hybrid delivery" of initiatives. This is done by complementing online initiatives with other material/channel to reach digitally excluded people. For example, printed material (books, brochures, posters) can be made available where the audience is located: in school, Parish councils, retirement homes, senior universities, branches of key public services etc. In addition, few initiatives are complementing the digital delivery by using traditional mass media campaigns (TV and radio).

The other way is to capitalise on relevant partnerships in order to provide in-person training/initiatives. Several initiatives ensure capillarity and proximity to the public, through close coordination with partner entities, local authorities, schools and agents of the social economy ecosystem.

Programme monitoring, evaluation mechanisms and lessons learnt

Programme monitoring and evaluation are essential to ensure that the programme's content is adapted to the target audience, up-to-date with respect to the evolution of retail financial services, and that delivery methods are effective, to identify areas for improvement and to check that the initiative makes good use of resources (OECD, 2020[2]).

Programme monitoring and evaluation rely on two interlinked but distinct processes. The monitoring of a programme tracks its implementation and provides answers to questions such as whether it is reaching enough people, or whether the resources are being used as intended. Monitoring can run continuously or even be automated: its role is to gather data on the implementation of the programme. This data can also be integrated in its evaluation. The evaluation of a programme refers to a process seeking to assess if the programme is meeting its objectives and achieving the desired impact on its beneficiaries. Without an evaluation, no programme can claim success and proper evaluation should be one of the requirements for obtaining funding for any financial education initiative (OECD, 2013[53]). In the context of a financial literacy strategy, it is important to also understand which programmes could contribute to the achievement of the strategy's goals. Such understanding can be used in decisions with regard to endorsement or integration of specific programmes in the national financial education strategy or with regard to funding provision.

Main indicators used to monitor the implementation of the initiative

The stocktaking questionnaire asked about the process and possible Key Performance Indicators (KPIs) used to monitor the implementation of the initiative. The monitoring of existing digital financial literacy programmes in Portugal takes place through the collection of main indicators such as the number of participants, registrations, subscribers, website/platform views or training sessions carried, the number of certifications given (at the end of training sessions for instance). It also takes place through the collection of metrics on social media (number of views, "likes" etc.). Also, the questionnaire asked whether there is an automated monitoring/data collection when initiatives are delivered digitally. Out of the seventeen initiatives delivered digitally, six are carrying out an automated monitoring of some of the KPIs mentioned above.

Evaluation of the impact and effectiveness of the initiatives

The main evaluation mechanism of impact and effectiveness of the initiatives is done through the analysis of participants' feedback, mainly after training sessions. This feedback is usually collected through a questionnaire, an evaluation or satisfaction form, which is shared with participants (either face-to-face of online), asking for their satisfaction, and for their assessment of the appropriateness and relevance of contents and materials used in the initiative.

One institution has conducted a far-reaching impact evaluation through the collection of data before and after two of its initiatives, in collaboration with external evaluators (see Box 3-1).

However, the majority of respondents does not evaluate their initiatives. Some of them highlighted that evaluating the effectiveness of initiatives can be very challenging. This is especially the case in initiatives delivered through social media where it can be difficult to assess the effectiveness and the impact of the information provided (for example, on the improvement of individuals' knowledge, attitudes or behaviour). Stakeholders also stress the difficulty to define and implement metrics to evaluate and monitor the development of initiatives for specific target audiences.

Box 3-1. The impact evaluation of the financial education programmes implemented by the Dr. António Cupertino de Miranda Foundation

Evaluation of the No Poupar está o Ganho programme

The Dr. António Cupertino de Miranda Foundation conducted a far-reaching evaluation of its *No Poupar está o Ganho* ("A penny saved is a penny earned") initiative. The study of social impact measurement was conducted by the SINCLab – Social Inclusion Laboratory, a Research Group from the Faculty of Psychology and Educational Sciences of the University of Porto. The study was conducted with children that participated in nPEG during three school years from 2017 through 2020. The study tested to which extent participation in the programme improved children's financial literacy skills (FLS) and their academic results in mathematics.

Research design and sampling. A pre-test, post-test and control group design was implemented with a randomly selected and representative sample of students from the 3rd to 6th grade. Once a given "treatment class" was sampled, a "control class" was randomly selected from the same school. To control for any "class context effect", at least two experimental and two control groups were selected from each sampled school. The sampling process excluded any school that could not match this criterium. Other criteria were used for the random selection of the two samples, such as covering proportionally all the five regions where nPEG was implemented and all the four school grades. The Research group, the Foundation, and more than one hundred school teachers collaborated to implement the evaluation and data collection. Data were collected by researchers from SINCLab in a setting where no adult that implemented nPEG activities was present.

The metrics. In the choice of "dependent variables" to be used as measures of children's financial literacy skills, the study regarded financial literacy not being primarily focused on knowledge acquisition and its application, but rather in the broader psycho-social processes that underpin one's manifestations of financial literacy. The study conceived "skills" as having cognitive, emotional, attitudinal, and behavioural dimensions.

The questions to measure children's financial literacy skills were designed as a series of real-life situations in which he or she would be confronted with the resolution of financial management problems, similar to what they could encounter in their everyday life context.

The financial literacy skills scale is made up of a total of 35 items, organised into 7 groups, corresponding to the same number of stimulus situations. The stimulus settings cover the same topics as the nPEG programme, namely: planning and managing a family budget, financial products, savings, ethics in financial matters, and financial rights and duties.

Impact on financial literacy skills. Evidence from the pre-test, post-test with control group design study showed that the nPEG Program impacted significantly and positively on participants' financial literacy-based skills and attitudes. Results showed that children from the treatment group significantly increased their financial literacy-based skills and attitudes after having participated in the nPEG Program. On the contrary, children in the control group showed no significant change from pre- to post-test.

Impact on mathematics skills. To measure the programme's impact on children mathematics skills the metrics used was their result in math at the end of the school year, compared to the previous one. The results showed an improvement in math grades.

Feedback from the evaluation into the programme. The results demonstrated that the achievement targets set by the research team during the 3 years of nPEG's implementation were achieved and

exceeded, both in relation to the number of participants enrolled, in the significant improvement of their financial literacy competences and in improving their mathematics performance.

Based on this, the Foundation concluded that it should carry on with its methodology, as well as continue to permanently reinforce the success factors of the programme, such as: proximity to students and teachers, a constant improvement and updating of nPEG's multiple pedagogical resources, review of the content of the programme by the Faculty of Economics of the University of Porto, and a strong focus on communication. The Foundation also promotes a strong sense of confidence and motivation for teachers, by offering them constant support and all the resources needed to teach financial literacy. In addition to all this, the project also offers accredited training to teachers.

Evaluation of the Eu e a Minha Reforma programme

Methods. The social impact measurement study of the programme *Eu e a Minha Reforma* ("Me and My Retirement") was conducted by a second partner - APLIXAR – Expertise in Applied research – and it implemented a similar quasi-experimental design. In this case, a population of 1,200 senior individuals (over 65 years of age) participated in the programme *Eu e a Minha Reforma* and the study included a representative sample of 492 seniors in the treatment group. The control group was collected by recruiting senior people that voluntarily accepted to participate, and that came from the same social contexts as those in the treatment group. This included senior people who initially enrolled in the programme, but that eventually did not participate.

Metrics. For this study the research group devised an index of financial skills, strongly inspired by OECD work. The index is composed of several indicators on general socio-cognitive skills applied to daily financial decisions (decision making, problem solving, self-efficiency, etc.), financial management behavioural skills, knowledge on financial literacy and digital skills applied to financial issues. The overall indicator covers three main components: financial knowledge relevant to daily life, financial attitudes, and financial behaviour.

Preliminary results. Preliminary results suggest that the *Eu e a Minha Reforma* programme had a significant and positive impact on the financial skills of the senior people that were enrolled in it.

Source: Stocktaking survey on existing digital financial education activities in Portugal and bilateral exchanges.

Main lessons learnt on the design and implementation of the initiatives and from the COVID-19 pandemic

Respondents to the stocktaking questionnaire shared some of the main lessons learnt as well as the challenges encountered in the design and implementation of digital financial education initiatives.

Lessons learnt and challenges that are relevant for programmes targeting all audiences

Survey respondents reported that the COVID-19 pandemic made the delivery of digital financial education very challenging as many digital financial education programmes had to move online in a steep way. However, stakeholders generally managed to cope with the situation and even took advantage of it. Indeed, the implementation of initiatives using digital channels allowed stakeholders to expand the pool of recipients, sometimes exceeding initial expectations.

In this context, respondents explained that, even if webinars and online training may have several advantages, they should not be considered as a substitute for face-to-face training and initiatives, mainly

due to the difficulties in reaching population groups with low digital competences. Therefore, it is important to combine face-to-face and online solutions in a hybrid approach. Stakeholders emphasised for instance the importance of complementing online awareness initiatives by campaigns through traditional mass media, such as radio and television, in order to reach segments of the population who are digitally excluded.

Stakeholders also highlighted the importance of allowing flexibility in the programmes as they may need to be adjusted frequently, as further emphasised by the COVID-19 experience. Programmes and messages also need to be adapted to various population sub-groups, who may have different needs and expectations. In this respect, respondents noted the importance of carrying out a pilot project before full-scale implementation.

Stakeholders mentioned the importance of timing when launching online awareness campaigns (for example, before certain periods such as Christmas) or training programs (for example, by adjusting the start of a programme and the dates of the sessions to the school calendar).

Stakeholders highlighted the importance to gather feedback from participants, to build on experience, and to learn from implementation. To this end, it is important to give an opportunity to recipients to ask questions and clarify doubts about the topics covered. However, stakeholders mentioned the difficulty to assess the effectiveness and impact of information, especially when provided online.

Lessons learnt and challenges that are relevant for programmes targeting seniors

Stakeholders highlighted the importance to invest in personalised or customised follow-up on financial education initiatives delivered to senior participants. It was also stressed that it is extremely difficult to reach the senior audience and manage to capture their attention.

Lessons learnt and challenges that are relevant for programmes targeting young people

Stakeholders mentioned the importance of gamification to capture the attention of young people. Indeed, gamification has a greater potential to impact attitudes and behaviours than other kinds of communication.

Another significant lesson learnt is the importance to go beyond awareness. It is for example considered important to motivate discussions in the classroom and fully engage students in the debate. In order to change attitudes and behaviours on a more permanent basis, young people and students should carry on discussing digital financial literacy topics on a regular basis. In this respect, stakeholders suggested to take into account the possibility to scale up one-off events (such as the Global Money Week) so that teachers can engage students in such activities throughout the school year, and to involve more participants or schools.

Finally, for initiatives involving teachers, stakeholders stressed the difficulty in encouraging teachers to act as ‘multipliers’ of projects. This is mainly due to teachers’ limited digital literacy, lack of time or limited motivation to embrace new projects (as a large number of projects already exist in schools). Furthermore, unequal access to digital resources by schools and the communities in different regions was also mentioned as a significant challenge.

4 Results of the 2022 survey on digital financial literacy in Portugal

The digital financial literacy survey

The OECD designed a survey instrument to assess the digital financial literacy of individuals in Portugal, covering many of the digital financial competences described in the Financial competence framework for adults in the European Union (European Union/OECD, 2022[54]). The survey aimed to investigate access and use of information and communication technologies, aspects of digital financial inclusion and use of digital financial services, and digital financial literacy levels of the population aged 16 and over in Portugal. The survey questionnaire is reported in Annex E.

Description of the sample

Data was collected in July and September 2022 by the Portuguese Catholic University - *Centro de Estudos e Sondagens de Opinião* (CESOP), using face-to-face interviews on a representative sample of 1 516 respondents from the Portuguese population aged 16 and over.

For consistency purposes, this survey followed a similar sample design to the one used in the 3rd Survey on the Financial Literacy of the Portuguese population (CNSF, 2021[20]) and the related Banco de Portugal Report on Financial and Digital Inclusion and Choice of Banking Products in Portugal (Banco de Portugal, 2021[17]). Furthermore, the survey investigated aspects that were also included in previous surveys, therefore allowing for a comparison with the late 2019-early 2020 situation, before the COVID-19 pandemic.

The stratification criteria to ensure representativeness comprise age groups[41], gender, education attainment[42], employment status[43], geographic region[44], and city size[45]. The split of respondents by socio-economic characteristics is shown in Annex Table 1.

The survey aims to examine the knowledge, behaviours, attitudes, and habits of respondents with regards to digital and financial activities. The sample of 1 516 respondents can be broken down by type of activities performed, such as shopping online or using online home banking facilities offered by financial institutions, as detailed in Table 4-1.

Table 4-1. Number of observations by digital (financial) activities performed by respondents

Groups of respondents	Number of observations	Percentage of respondents	Percentage of Internet users
Overall	1 516	100%	NA
Internet users	1 154	76%	100%
- Of which online shoppers	688	45%	60%
- Of which users of home banking	752	50%	65%
- Of which users of other digital financial services (DFS)*	673	44%	58%
- Of which DFS users (people who shop online and/or use home banking and/or use other digital financial services*)	873	58%	76%

Note: * Users of other digital financial services are defined as respondents either using one or more of the following services: MBWay, e-wallets for making payments, digital services for transferring money other than a homebanking service, smartwatches to make payments, crowd-funding services, crypto-assets, online platforms or applications aggregating several bank accounts and payment services, payment initiation services, online trading platforms, automated investment services or robo-advice, and digital budgeting tools; or having performed one of the following activities completely online through a website or application other than that of their home banking service: opened a current account, subscribed a credit card, subscribed an insurance policy, taken out consumer credit, taken out mortgage credit, or subscribed to a pension plan.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Aspects of digital inclusion

Access and use of information and communication technologies

Analysing the use of the Internet among the Portuguese population provides a first measure of its level of digital inclusion.

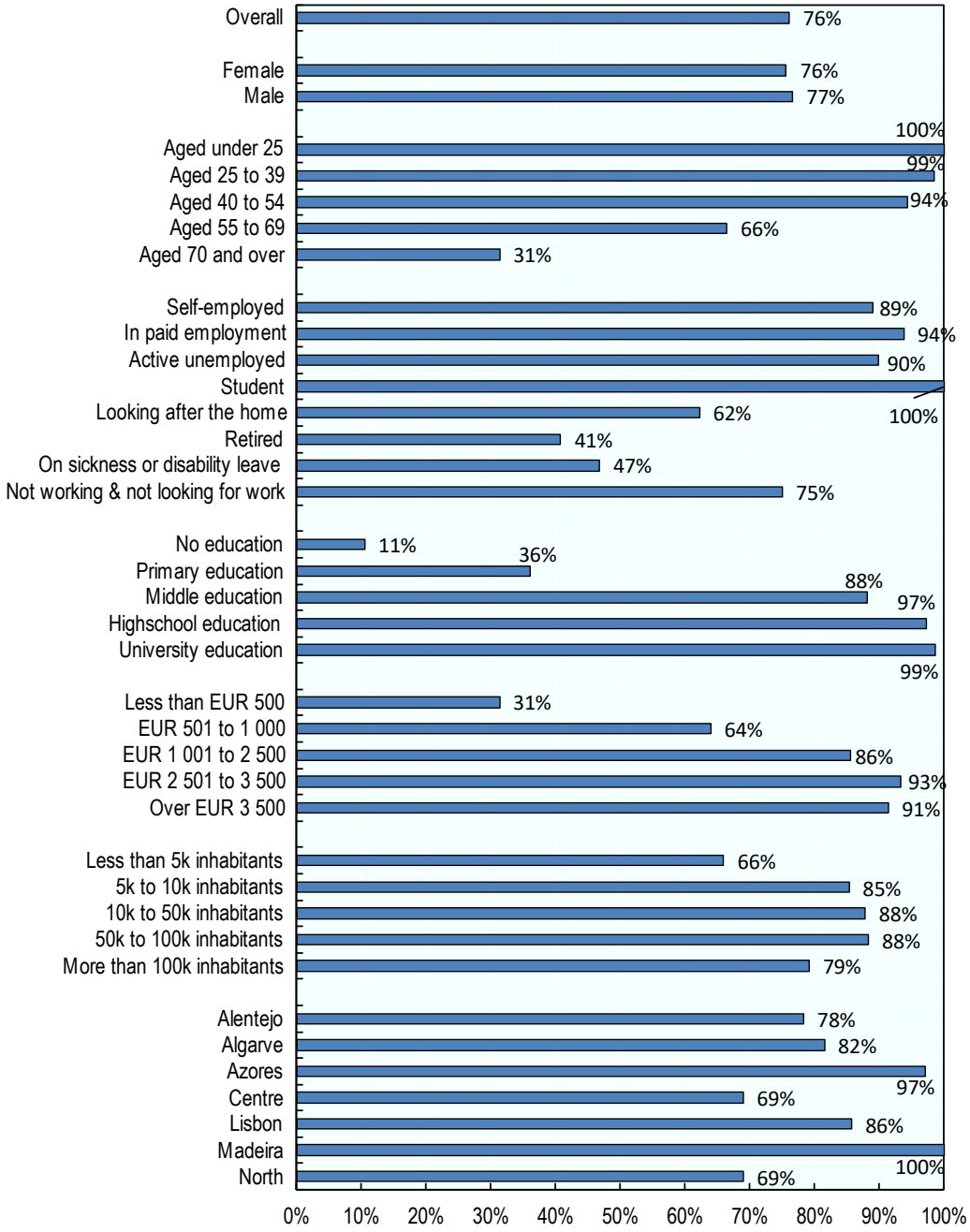
Use of the Internet

Some 76% of respondents to the survey reported using the Internet. This proportion is almost equal among genders (77% of men and 76% of women), however it varies greatly according to other socio-economic characteristics, as illustrated in Figure 4-1:

- 31% of respondents aged 70 or over use the Internet, compared to 100% of those under the age of 25.
- 41% of retired people use the Internet compared to 100% of students.
- 11% of respondents with no education use the Internet compared to 99% of those who attended university.
- 31% of those with a monthly income of less than EUR 500 use the Internet, compared to 91% of those earning over EUR 3500 per month.
- 69% of people in the Centre or North regions use the Internet, compared to 100% of those living in the autonomous region of Madeira.

Figure 4-1. Use of the Internet, overall and by population sub-groups

Percentage of respondents



Note: Based on 1 516 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Reasons for not using the Internet

Respondents who do not use the Internet (24%) have a variety of reasons for not doing so (Table 4-2). Half of them said that it is too complicated to use (54% of women and 45% of men who do not use the Internet), and 29% that they do not need it.

Table 4-2. Reasons for not using the Internet

Percentage of respondents who do not use the Internet

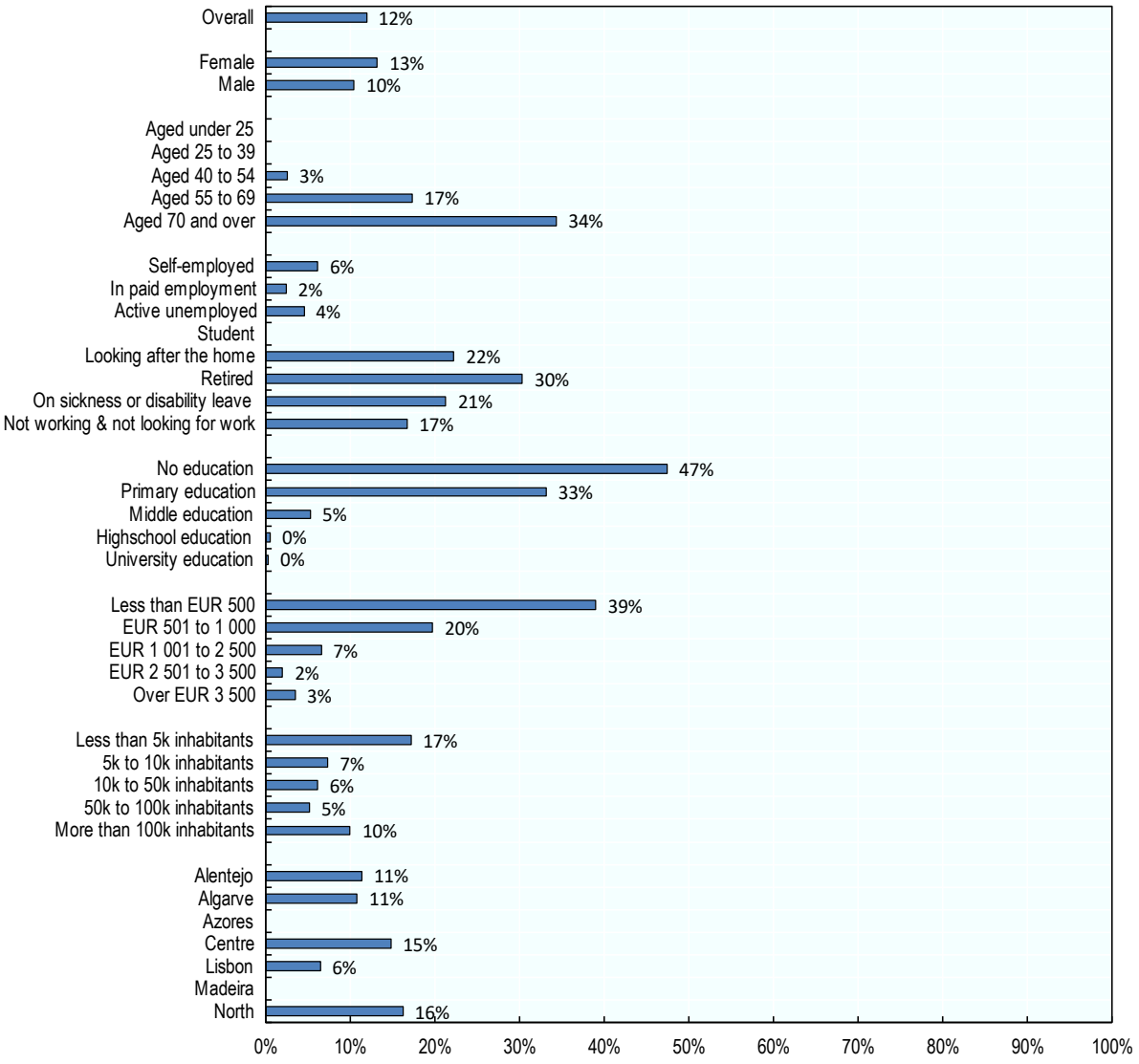
Reason for not using the Internet	Percentage of those not using the Internet
It is too complicated to use	50%
I do not need it	29%
I do not want it	23%
I do not have time to use it	6%
I cannot afford the subscription to the Internet	4%
It is not safe	4%
I cannot afford the equipment to use the Internet	2%
I do not have Internet coverage where I live	1%

Note: Based on 362 observations. Results do not add up to 100% as respondents could choose more than one answer.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Those who find the Internet too complicated to use correspond to 12% of all survey respondents. These respondents are in older age groups (aged 55 and over), as illustrated in Figure 4-2. They are more often women (13% of female respondents compared to 10% of men), retired (30% of this category of respondents), with low levels of formal education (47% of those with no formal education, and 33% of those who have completed primary school only). They are also in rather low monthly income groups (39% of those with a monthly household income below EUR 500, and 20% of those with a monthly income between EUR 500 and EUR 1 000). Around 17% of respondents in cities with less than 5 000 inhabitants said they find the Internet too complicated to use.

Figure 4-2. Respondents finding the Internet too complicated to use, overall and by population sub-groups

Percentage of respondents



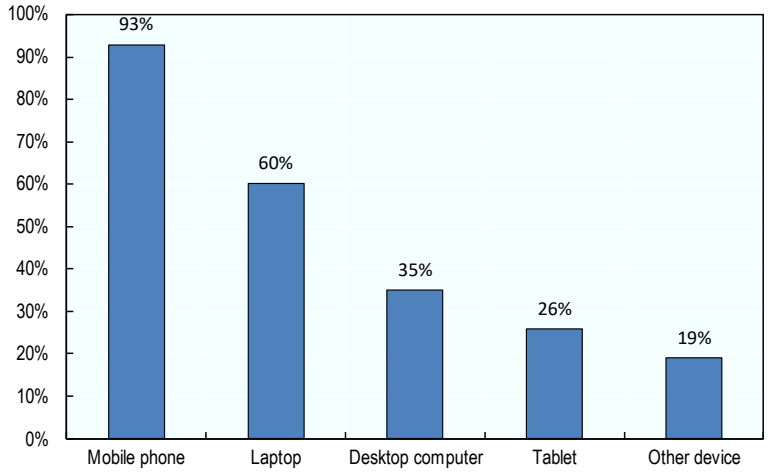
Note: Based on 1 516 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Devices used to access the Internet

Internet users in Portugal access it mainly through a mobile phone (93% of users) and/or a laptop (60%) (Figure 4-3).

Figure 4-3. Devices used to access the Internet

Percentage of Internet users going online through the following devices



Note: Based on1 154 observations. Results do not add up to 100% as respondents could choose more than one device. Other devices include smart televisions, smart speakers, game consoles, e-book readers, smart watches among others.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Intensity of use of information and communication technologies

Digital use score

The survey assessed whether and to what extent the Portuguese population uses digital tools to perform various daily activities, such as searching for information online or sending and receiving emails, and this information is used to compute a digital use score. The digital use score provides a snapshot of the various uses of digital tools and can be utilised as a measure of the intensity of digital activities by Internet users in the Portuguese population. The full list of activities that enter the digital use score is described in Box 4-1, and the score not only reflects whether each of these activities is performed at all, but also how often is it performed (very often, often, sometimes, rarely, never).

Box 4-1. The digital use score

Whether or not, and how often, the following activities are performed is assessed in the digital use score. For each activity, the digital use score assigns 0 points for never performing it, 1 point for performing it rarely, 2 points for sometimes, 3 points for often, and 4 points for very often:

- Searching for information online
- Sending/receiving e-mails
- Sending/receiving instant messages (e.g., via WhatsApp, Messenger, Skype, Telegram, Signal, Viber, Snapchat, Instagram, etc.)
- Making calls or video calls over the Internet (e.g., via WhatsApp, Messenger, Skype, Facetime, Viber, Snapchat, Instagram, etc.)
- Participating in social networks, reading, or posting messages/photos (e.g., Facebook, Twitter, Instagram, LinkedIn, Snapchat, TikTok, etc.)
- Reading online news / newspapers / magazines
- Buying goods or services from online shops using a mobile phone/tablet or a computer/laptop* (e.g., Amazon, Booking, Continente, Auchan, Worten, FNAC, clothing stores)
- Buying or selling goods from other individuals through online platforms using a mobile phone/ tablet or a computer/laptop* (e.g., Olx, Custojusto etc.)
- Comparing prices of goods and services online
- Undertaking administrative tasks online (e.g., paying taxes, applying for public benefits, dealing with the public administration, etc.)

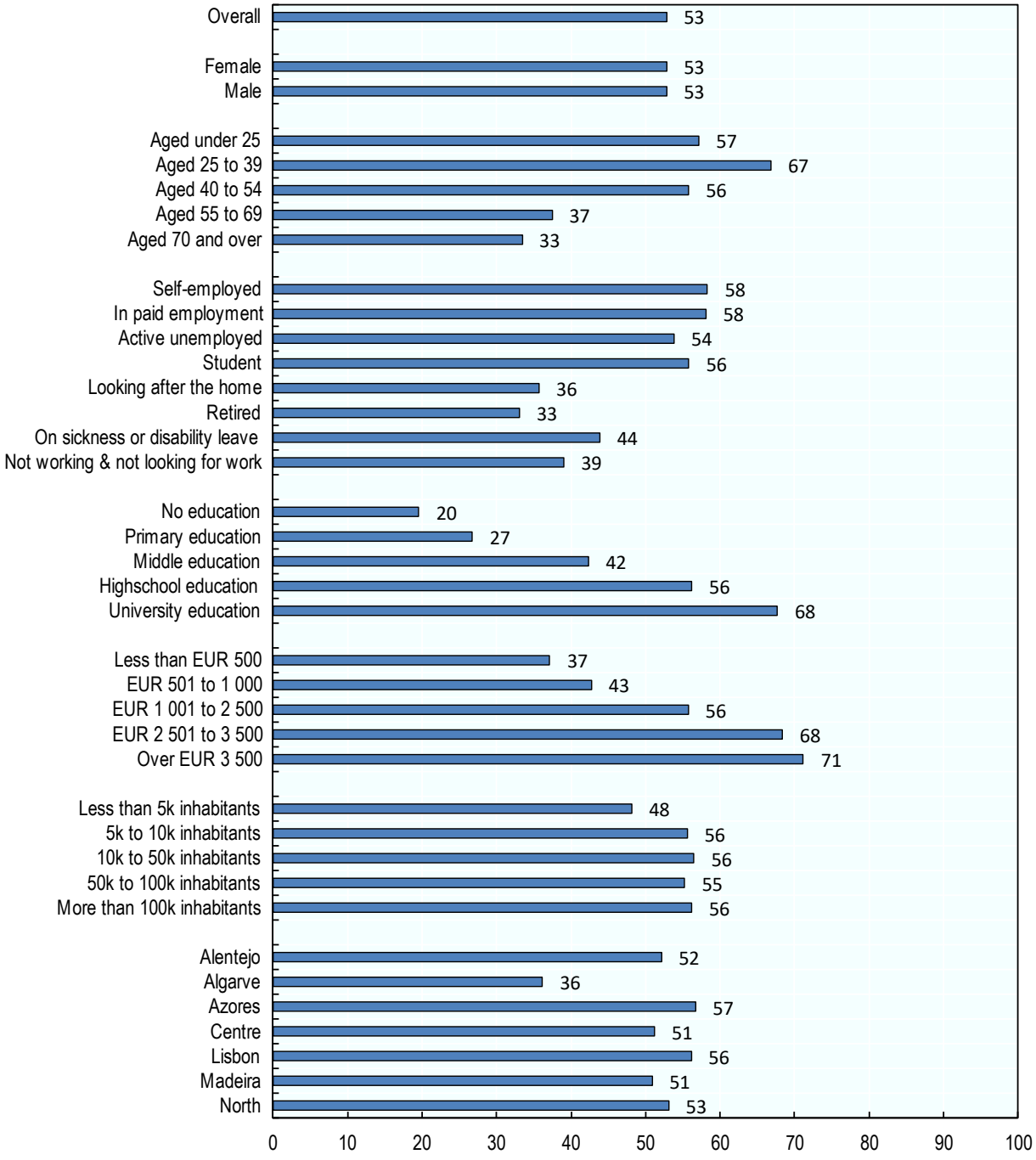
Note: *The digital use score uses the highest score for buying goods or services from online shops irrespective of the device used, i.e. the highest score among that assigned for using a mobile phone/tablet, and for using a computer/laptop. Similarly, it uses the highest score for buying or selling goods from other individuals through online platforms irrespective of the device used.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

The overall average digital use score of Internet users in Portugal is 53. This score is illustrated in Figure 4-4, together with the score for different groups of the population according to their gender, age group, employment status, education level, monthly income, city size and region of residence.

Data show that the digital use score does not vary by gender, as both men and women have an average score of 53. Other characteristics, such as education, monthly income, or age, appear to be associated with the score, with respondents having attained higher education levels, receiving higher monthly income or in lower age groups displaying higher average digital use scores than respondents with lower levels of education, lower monthly income or in higher age groups (Figure 4-4).

Figure 4-4. Digital use score, overall and by population sub-groups

For all Internet users, out of a maximum of 100



Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

The results of a multivariate analysis considering all socio-demographic factors together (see Annex Table 2) confirm that higher scores on digital use are associated with younger ages, higher educational attainment, and higher income levels. The digital use score is lower in Algarve than in Lisbon.

Types and frequency of activities performed via digital tools

Respondents have indicated using digital tools to perform various types of activities and at various frequencies. Some 98% of respondents said they use a mobile phone to make calls, and 55% of respondents reported using a computer to write or organise documents (Table 4-3 Panel A).

Among respondents who do not use the Internet, 93% still use a mobile phone to make calls, however only 4% said they use a computer to write or organise documents (Table 4-3 Panel B).

Among Internet users, 95% said they search for information online, 93% said they use instant messaging to communicate, 88% said they use emails and 64% undertook administrative tasks online (Table 4-3, Panel C). The preponderance of mobile phones and tablets over computers and laptops to perform activities digitally is illustrated by the higher proportion of Internet users using their mobile phone or tablet rather than a computer or laptop to shop online (54% vs 49% respectively) and buy or sell goods to/from individuals (35% vs 31% respectively).

Box 4-2 provides additional information about the digital inclusion of senior citizens (aged 70 and over), and about the activities they perform digitally.

Table 4-3. Activities performed digitally

Panel A - Percentage of all respondents				
	Often / Very often	Sometimes / Rarely	Never	No response
Making calls using a mobile phone	64%	34%	2%	0%
Using a computer/laptop to write or organise documents	34%	21%	44%	1%
Panel B - Percentage of respondents who do not use the Internet				
	Often / Very often	Sometimes / Rarely	Never	No response
Making calls using a mobile phone	35%	58%	6%	1%
Using a computer/laptop to write or organise documents	1%	3%	93%	3%
Panel C - Percentage of Internet users				
	Often / Very often	Sometimes / Rarely	Never	No response
Making calls using a mobile phone	73%	27%	0%	0%
Searching for information online	69%	26%	5%	0%
Sending/receiving instant messages	69%	24%	7%	0%
Sending/receiving e-mails	60%	28%	12%	0%
Making calls or video calls over the Internet	51%	39%	10%	0%
Reading online news / newspapers / magazines	51%	35%	14%	0%
Participating in social networks, reading, or posting messages/photos	49%	37%	14%	0%
Using a computer/laptop to write or organise documents	44%	27%	28%	1%
Undertaking administrative tasks online	41%	23%	35%	1%
Comparing prices of goods and services online	33%	37%	29%	1%
Buying goods or services from online shops using a mobile phone /tablet	20%	34%	45%	1%
Buying goods or services from online shops using a computer/laptop	16%	33%	50%	1%

Buying or selling goods from other individuals through online platforms using a mobile phone/ tablet	8%	27%	64%	1%
Buying or selling goods from other individuals through online platforms using a computer/laptop	6%	25%	68%	1%

Note: Based on 1 516 observations for Panel A, 362 observations for Panel B, and 1 154 observations for Panel C.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Box 4-2. Digital inclusion of senior citizens

Some 31% of respondents aged 70 and over said they use the Internet, compared to 66% of those aged between 55 and 69, and 94% of those aged 40 to 54.

Respondents in the 70+ age group have adopted mobile phones since 94% of them said they use mobile phones to make phone calls at least occasionally (Table 4-4, Panel A). However, the usage of computers and laptops is not as widespread, as only 17% of them said they use such a device to write or organise documents, compared to 55% in the overall population.

Not only is the percentage of senior people accessing the Internet much lower than that of other age groups, but also those accessing the Internet perform various activities less frequently than the general population. In fact, looking at the use of the Internet to perform various activities shows that activities performed by senior citizens differ from the overall population. Internet users aged 70 and over said they read online newspapers often or very often more than they search for information (48% versus 43%), which is not the case for Internet users more generally. Calls or video calls over the Internet are not as common as for the overall population of Internet users (65% of those aged 70 and over reported doing so, compared to 90% of all Internet users) (Table 4-4, Panel B). The proportion of senior Internet users that undertake administrative tasks online is also much lower (40%) than among the general population (64%), indicating that Internet users aged 70 and over may still prefer traditional channels for their administrative duties. Online shopping is also much less common among those in the older age group, with 22% of respondents doing so with a laptop or computer (and 11% with a mobile phone), compared to 54% in the general population (49% for mobile phones).

Table 4-4. Activities performed digitally by citizens aged 70 and over

Panel A - Percentage of all respondents aged 70 and over				
	Often / Very often	Sometimes / Rarely	Never	No response
Making calls using a mobile phone	42%	52%	5%	1%
Using a computer/laptop to write or organise documents	7%	10%	80%	3%
Panel B - Percentage of Internet users aged 70 and over				
	Often / Very often	Sometimes / Rarely	Never	No response
Making calls using a mobile phone	60%	39%	1%	0%
Reading online news / newspapers / magazines	48%	28%	24%	0%
Searching for information online	43%	42%	15%	0%
Sending/receiving instant messages	37.5%	37.5%	25%	0%
Sending/receiving e-mails	35%	37%	28%	0%

Participating in social networks, reading, or posting messages/photos	25%	31%	44%	0%
Undertaking administrative tasks online	24%	16%	57%	3%
Making calls or video calls over the Internet	22%	43%	35%	0%
Using a computer/laptop to write or organise documents	20%	26%	52%	2%
Comparing prices of goods and services online	17%	23%	58%	2%
Buying goods or services from online shops using a computer/laptop	5%	17%	77%	1%
Buying goods or services from online shops using a mobile phone /tablet	3%	8%	88%	1%
Buying or selling goods from other individuals through online platforms using a computer/laptop	1%	6%	91%	2%
Buying or selling goods from other individuals through online platforms using a mobile phone/ tablet	1%	4%	94%	1%

Note: Based on 306 observations for Panel A, and 96 observations for Panel B.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Ensuring online safety

Online safety score

Online fraud and scam attempts are increasingly common as more people use the Internet to perform various activities. Protecting one's personal data and financial information is therefore key to ensuring online safety. The survey also assessed to what extent the Portuguese population applies basic safety and personal data protection measures, and this information is used to compute an online safety score, which can be analysed to identify potential population sub-groups that may be more vulnerable to online fraud and scam attempts. The online safety score is computed by evaluating the responses to 20 questions (22 for users of social media) and is rescaled to range between 0 and 100. Items evaluated in the online safety score are described in Box 4-3.

Box 4-3. Items assessed in the online safety score

Behaviour items related to higher online safety procedures

- I create strong passwords (e.g., in terms of length, use of different characters, etc.) (1 point if "Completely" or "Very well")
- I use different passwords for different financial and non- financial accounts (e.g., home banking, bank cards, e-mail, social media, e-commerce accounts, etc.) (1 point if "Completely" or "Very well")
- I allow my browser to save my passwords for different financial and non- financial accounts (1 point if "Not at all")
- I update the software on my smartphone (e.g., iOS or Android updates) when new updates become available (1 point if "Completely" or "Very well")
- I use anti-virus and anti-spyware software and keep these up to date on my laptop/computer (1 point if "Completely" or "Very well")

- I regularly change my smartphone/ computer access passwords (1 point if “Completely” or “Very well”)
- I regularly change the passwords on websites that I use for online shopping and personal finances (1 point if “Completely” or “Very well”)
- I share my passwords with my friends (1 point if “Never”)
- I use Public Wi-Fi networks (e.g., in airports, cafés, hotels, shopping malls etc.) (1 point if “Never”)
- I access personal information (e.g., email, social media) on public computers (1 point if “Never”)
- I leave my smartphone unattended (1 point if “Never”)
- I check the access permissions of the apps I install. (1 point if “Often” or “Very often”)
- When I install mobile applications (apps), I verify that it is from a trustworthy source (1 point if “Often” or “Very often”)
- I click on links or attachments from unexpected e-mails or text messages (1 point if “Never”)
- I provide personal information (e.g., passwords, credentials) over e-mail, text or phone calls (1 point if “Never”)

Behaviour items related to higher personal data protection

- I carefully read privacy policy statements before providing personal data (1 point if “Completely” or “Very well”)
- I limit or refuse access to my geographical location (e.g., on apps, websites, phone) (1 point if “Completely” or “Very well”)
- I share information about my finances publicly online (1 point if “Not at all”)
- I allow the use of personal data for advertising purposes (1 point if “Not at all” or “Very little””)
- I ask websites administrators or providers to delete my personal data when I no longer plan to use the website (1 point if “Completely” or “Very well”)

Additional items for users of social media (associated to a higher score)

- I limit access to my profile or content on social networks (1 point if “Completely” or “Very well”)
- I share personal information on social networks (e.g., date of birth, address, phone number) (1 point if “Not at all” or “Very little”)

Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

The average Internet user in Portugal has an online safety score of 56 out of 100 (Figure 4-5), and this score is barely different by gender (57 for men vs 56 for women on average). However, other socio-economic factors may play a role in the online safety score, as large differences can be seen across various segments of the population, as shown in Figure 4-5:

- Those exhibiting higher levels of online safety on average are aged between 25 and 39 (a score of 63 on average), followed by those aged 40 to 54 and under 25-years-old (with scores of 59 and 57, respectively). Those more vulnerable to online risks appear to belong to older age groups (with an online safety score of less than 50 on average for those aged 55 and older).
- Students exhibit the highest average online safety score (60), followed by people in paid employment or self-employed (59 on average).
- Population groups whose work status is inactive and who are not studying or working have relatively low online safety scores (from a score of 47 for those taking care of the home and retired

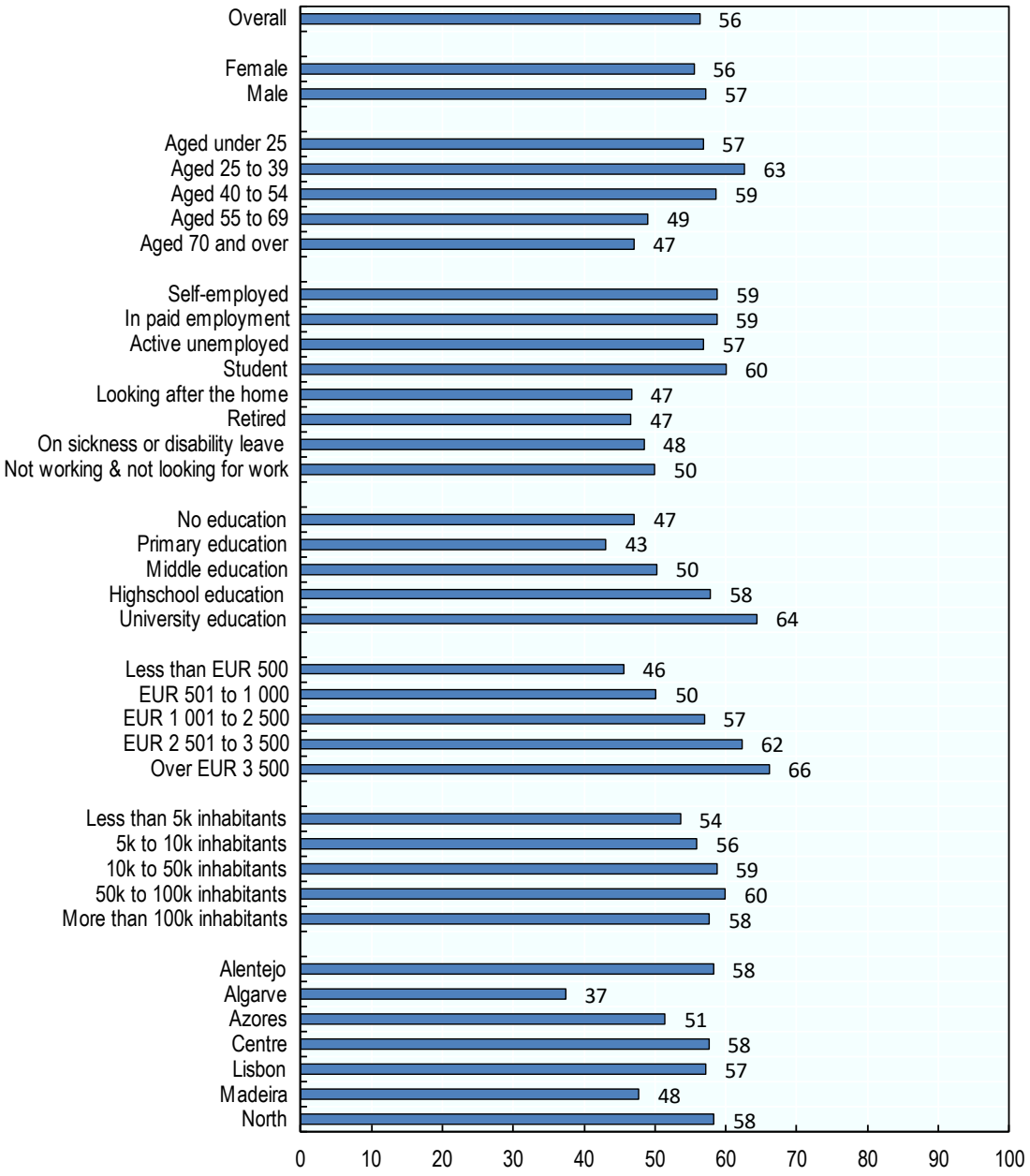
people, 48 for those on sick or disability benefits, to 50 for those not working and not looking for work).

- Online safety measures appear to be better applied by those with higher levels of education (from a score of 43 among those with only primary education to 64 for those with university education).
- Higher monthly household income also appears to be associated with higher levels of online safety (a score of 46 for those with less than EUR 500 per month, vs 66 for those with more than EUR 3 500 per month).
- Regional differences can be observed, from a score of 37 on average for people living in Algarve to 58 on average for those living in Alentejo, the Centre and the North regions.

The results of a multivariate analysis (available in Annex Table 2) confirmed that the online safety score is lower for older age groups compared to younger ones, and that it is positively associated with income and education levels. The online safety score is lower in Madeira and Algarve than in Lisbon.

Figure 4-5. Online safety score, overall and by population sub-groups

For all Internet users, out of a maximum of 100



Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Online safety procedures

Respondents' behaviour related to basic online safety procedures is detailed in Table 4-5 and Table 4-6.

The Portuguese population appears to adopt many safety procedures when using the Internet, as 91% of respondents said they never share their passwords with friends, 83% said they never provide personal

information over email or during phone calls, and only 2% said they often or very often click on links or open attachments coming from unexpected emails or messages.

It is also worth noting that safety measures related to mobile applications may often be overlooked by users, as only 42% of respondents agreed that they often or very often verify the access permissions they are granting when installing a new mobile application, and 53% (often or very often) verify that such application comes from a trustworthy source.

Table 4-5. Frequency with which basic online safety procedures are followed

Percentage of Internet users

	Often / Very often	Sometimes / Rarely	Never	No response
When I install mobile applications, I verify that it is from a trustworthy source	53%	22%	15%	10%
I check the access permissions of the apps I install	42%	26%	22%	10%
I use Public Wi-Fi networks	17%	41%	41%	1%
I share my passwords with my close family members	11%	31%	57%	1%
I leave my smartphone unattended	3%	25%	69%	3%
I access personal information on public computers	3%	19%	76%	2%
I click on links or attachments from unexpected e-mails or messages	2%	18%	76%	4%
I provide personal information over e-mail, message, or phone calls	1%	14%	83%	2%
I share my passwords with my friends	1%	7%	91%	1%

Note: Based on 1 154 observations. Statements are ordered in descending order of frequency (percentage of "Often/Very often", then "Sometimes/Rarely").
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Interestingly, most respondents (60%) said they create strong passwords in terms of length and use of different types of characters, but only 46% said they use different passwords for different accounts, and 19% said they regularly change the passwords they use to access online shopping and personal finance accounts. This could indicate that while basic safety measures are implemented by many Internet users, there may be a need to reinforce the message that safety should not be considered a one-off requirement and that using the same password for different online accounts increases the risk of falling victim to an online fraud.

Table 4-6. Extent to which basic online safety procedures are followed

Percentage of Internet users

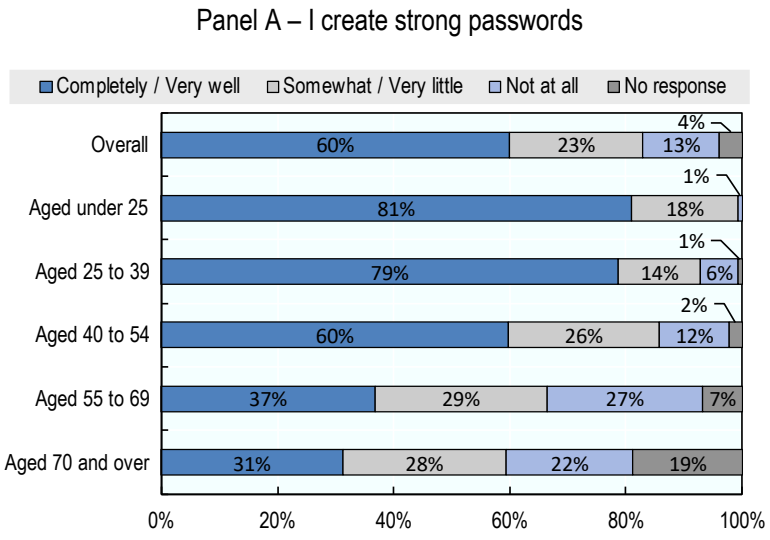
	Completely / Very well	Somewhat / Very little	Not at all	No response
I create strong passwords	60%	23%	13%	4%
I update the software on my smartphone when new updates become available	60%	21%	14%	5%
I use anti-virus and anti-spyware software and keep these up to date on my laptop/computer	55%	17%	17%	11%
I use different passwords for different financial and non-financial accounts	46%	22%	27%	5%
I regularly change my smartphone/ computer access passwords	23%	37%	37%	3%
I regularly change the passwords on websites that I use for online shopping and personal finances	19%	31%	37%	13%
I allow my browser to save my passwords for different financial and non-financial accounts	17%	23%	52%	8%

Note: Based on 1 154 observations. Statements are ordered in descending order of frequency (percentage of "Completely / Very well").
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

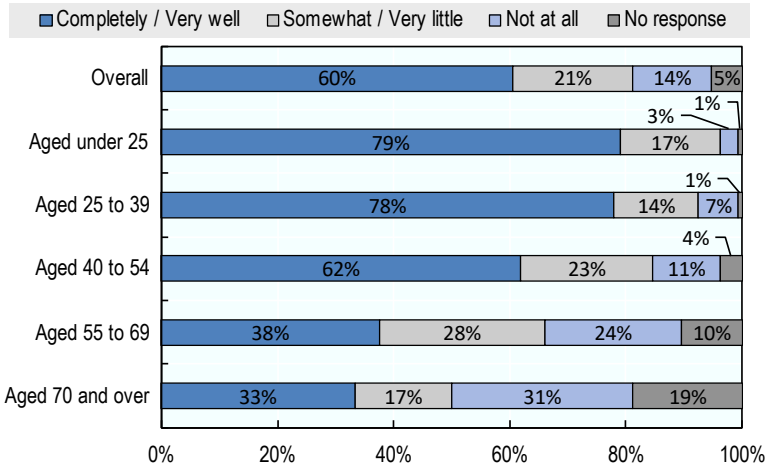
Across most of the basic online safety procedures tested in the survey, Internet users aged up to 39 fare better than older users, and the degree of implementation of these measures decreases with age from age 40 (Figure 4-6). For instance, at least 79% of those younger than 40 said they create strong passwords, compared to lower percentages in the other age groups (Figure 4-6, Panel A). The exception to this association between higher age and lower safety procedures is related to allowing a browser to save one's passwords (Figure 4-6, Panel G).

Figure 4-6. Basic online safety procedures implemented, by age group

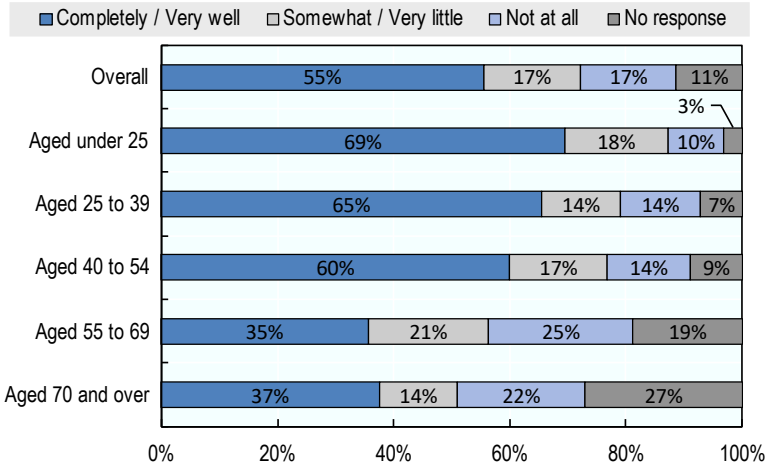
Percentage of Internet users



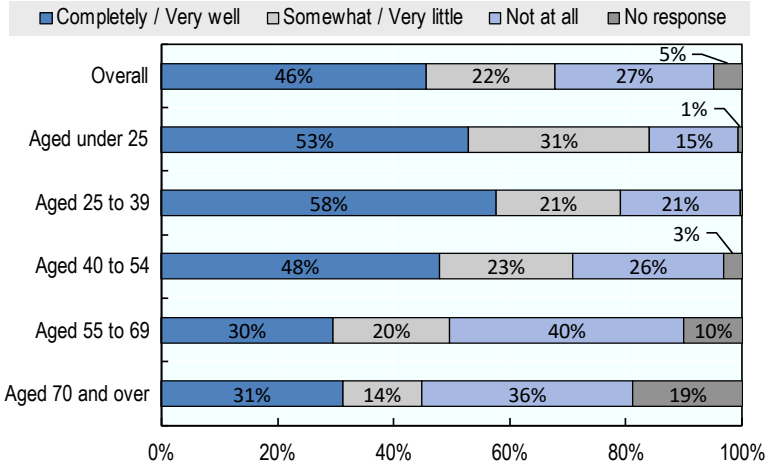
Panel B – I update the software on my smartphone when new updates become available



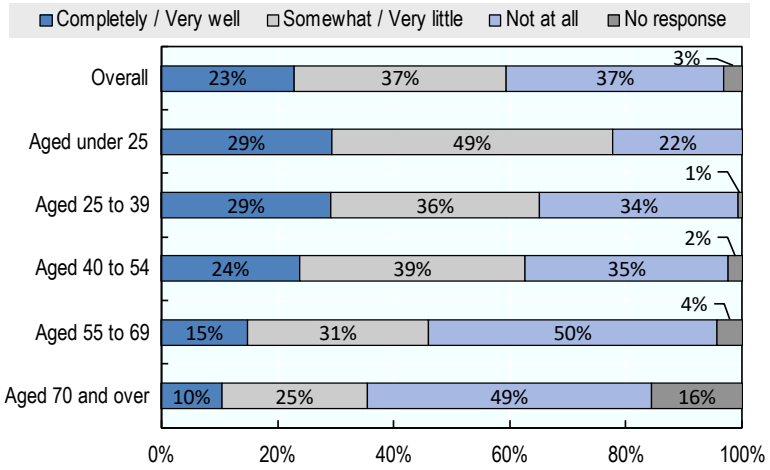
Panel C – I use anti-virus and anti-spyware software and keep these up to date on my laptop/computer



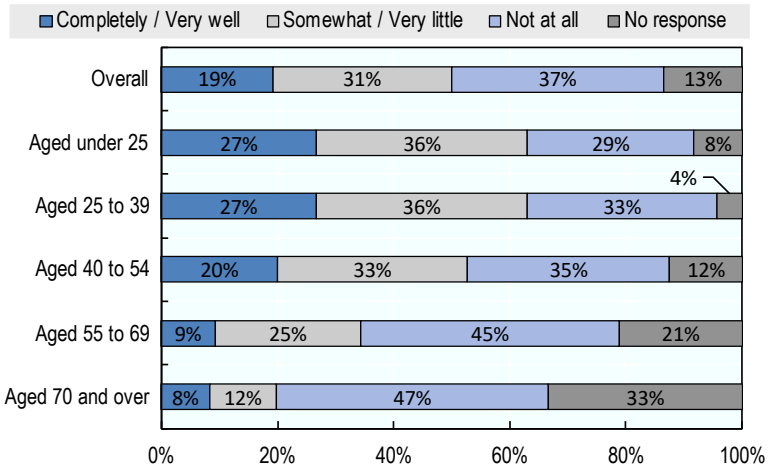
Panel D – I use different passwords for different financial and non-financial accounts



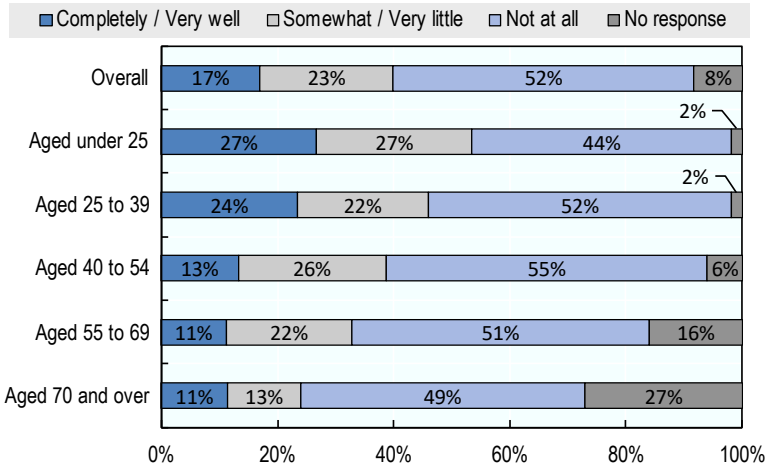
Panel E – I regularly change my smartphone/ computer access passwords



Panel F – I regularly change the passwords on websites that I use for online shopping and personal finances



Panel G – I allow my browser to save my passwords for different financial and non-financial accounts



Note: Based on 1 154 observations.
Source: Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

When using the Internet, personal data can be stolen and used by fraudsters. Protecting one's personal data is therefore crucial when using digital tools. The survey assessed the extent to which personal data protection measures are implemented by the Portuguese population when going online (Table 4-7). Some 77% of Internet users said they limit or refuse granting access to their geographical location when going online. Most respondents (72%) reported reading privacy policy statements before providing personal data, with 31% reported to identify themselves with this sentence completely or very well. Only 38% of Internet users reported asking website administrators to delete their personal data when they no longer plan to use a website, but a majority (64%) reported not allowing the use of personal data for advertising purposes.

Table 4-7. Extent to which personal data protection procedures are implemented

Percentage of Internet and social media users if applicable

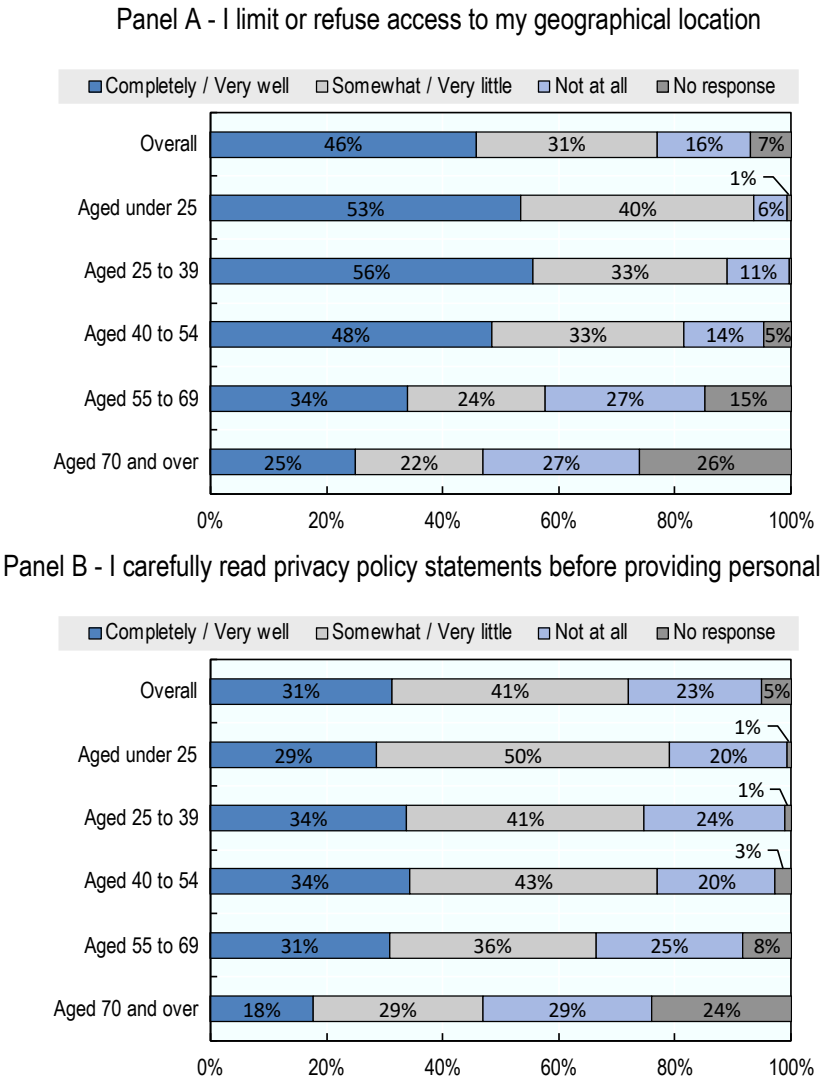
	Completely / Very well	Somewhat / Very little	Not at all	No response
I limit or refuse access to my geographical location	46%	31%	16%	7%
I carefully read privacy policy statements before providing personal data	31%	41%	23%	5%
I ask websites administrators or providers to delete my personal data when I no longer plan to use the website	20%	18%	54%	8%
I allow the use of personal data for advertising purposes	3%	30%	64%	3%
I share information about my finances online	1%	9%	87%	3%
I limit access to my profile or content on social networks	57%	26%	13%	4%
I share my personal data on social networks	6%	41%	50%	3%

Note: Based on 1 154 observations for the first five questions, and 990 observations for the last two. Statements are ordered in descending order of frequency (percentage of "Completely / Very well"). Items highlighted in light grey were asked only to those respondents who reported using social media.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

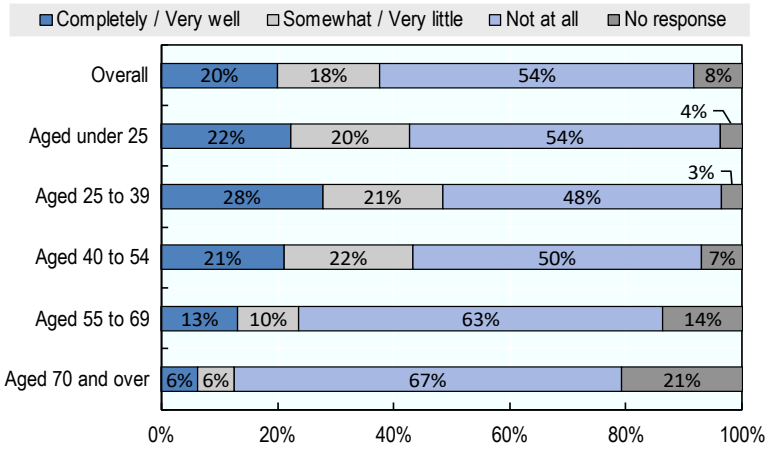
The various age groups seem to adopt similar behaviours regarding personal data, with the exception of those aged 70 and over, and to a lower extent those aged between 55 to 69, who appear more vulnerable than younger users on some personal data protection measures (Figure 4-7). For example, while 48% or more of users aged up to 54 years old said they limit or refuse access to their geographical location, only 34% of those between the ages of 55 and 69, and 25% of those aged 70 and over reported to do so (Figure 4-7, Panel A). Some 20% of Internet users said they ask website administrators to delete their personal data when they no longer plan to use a website, but this proportion falls to 13% of people aged 55 to 69, and to 6% of those aged 70 and over (Figure 4-7, Panel C).

Figure 4-7. Personal data protection measures implemented, by age group

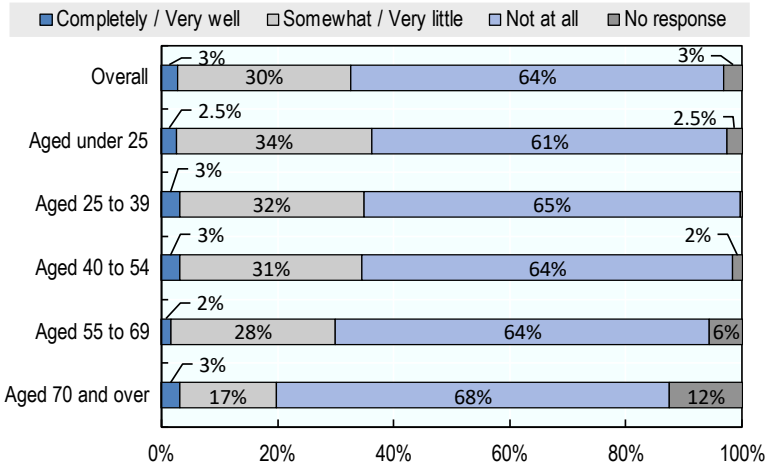
Percentage of Internet users



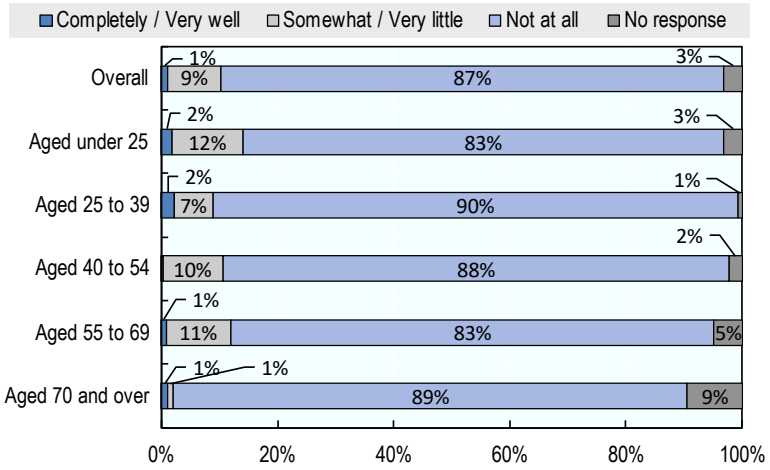
Panel C - I ask website administrators or providers to delete my personal data when I no longer plan to use the website



Panel D - I allow the use of personal data for advertising purposes



Panel E - I share information about my finances online



Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Information shared on social media can also be used malevolently, and the survey therefore assessed the behaviour related to personal data protection when using social networks for those respondents who report using them. Some 86% of Internet users in the survey reported using social media (Table 4-8).

Table 4-8. Social media users by age group

Number of users in each age group

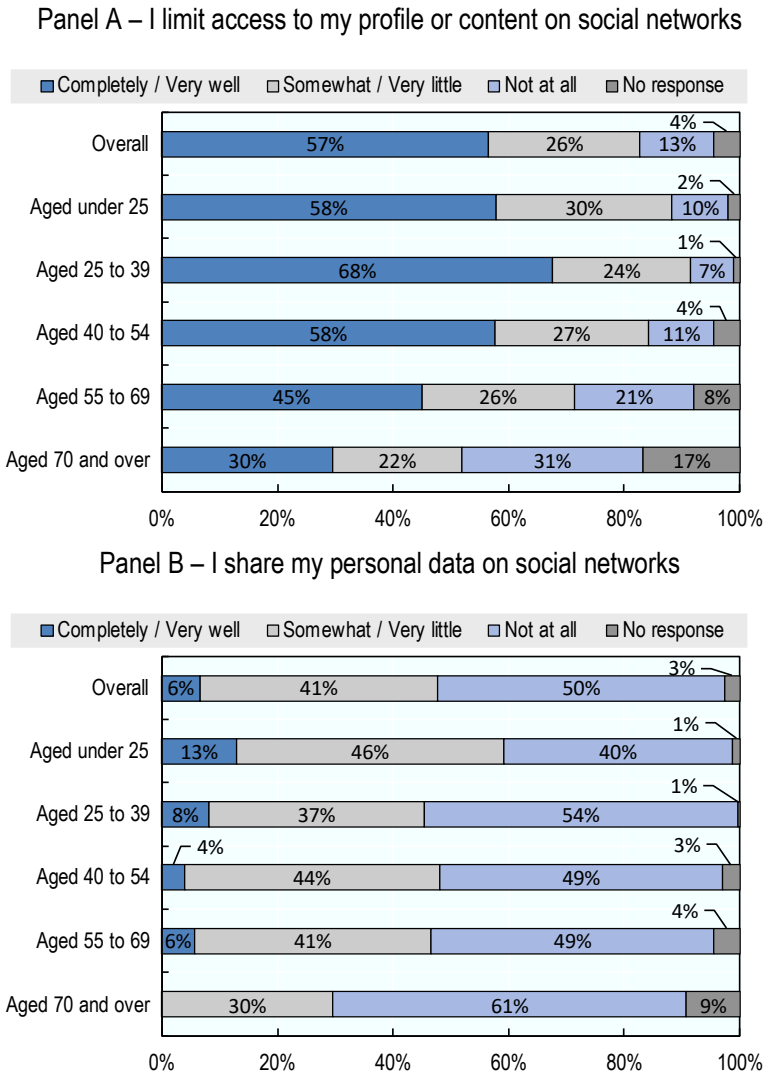
	Number	As a percentage of Internet users in age group
Aged under 25	154	98%
Aged 25 to 39	269	96%
Aged 40 to 54	335	91%
Aged 55 to 69	178	71%
Aged 70 and over	54	56%
TOTAL	990	86%

Note: Based on 1 154 observations for Internet users. Social media users are respondents declaring that they participate in social networks by reading or posting content.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Some 13% of social media users said they do not limit at all the access to their profile or to the content they share on social media, and 47% admitted sharing some personal data such as their date of birth, address or phone number on social media. Social media users in older age groups do not limit access to their profile or content on social networks as much as younger users do: 52% of those aged 70 and over reported doing so, compared to 88% of those under 25 and 92% of those aged between 25 and 39 (Figure 4-8, Panel A). There may be a link between sharing personal data on social media and limiting access to one's profile or content, as younger users of social media also share personal data (such as their date of birth, phone number, or address) more frequently than users in older age groups: 59% of those aged under 25 reported doing so, compared to 30% of those aged 70 and over (Figure 4-8, Panel B). However, it is worth noting that the sample of users of social media aged 70 and over is relatively limited (54 observations), compared to social media users in younger age groups, as shown in Table 4-8.

Figure 4-8. Data protection measures implemented by social media users, by age group

Percentage of social media users



Note: Based on 990 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

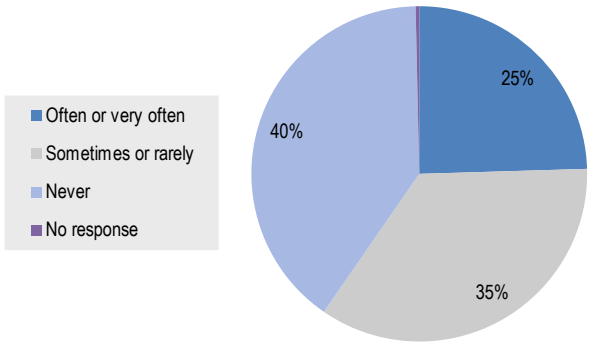
Aspects of digital financial inclusion

Online shopping

Among Internet users, 60% said they shop online: 25% often and 35% occasionally (Figure 4-9). Online shoppers represent 45% of all respondents.

Figure 4-9. Frequency of online shopping

Percentage of Internet users



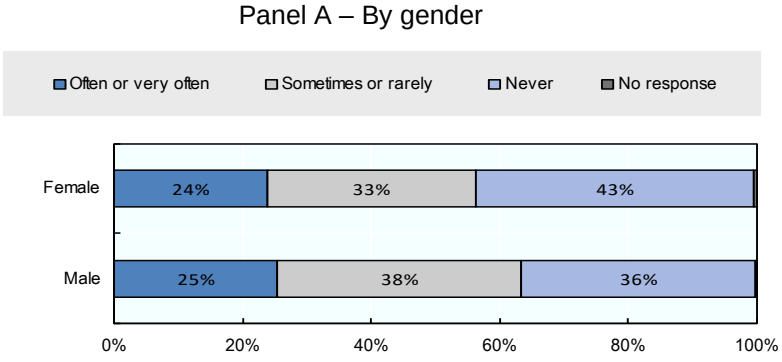
Note: Based on 1 154 observations. 4 Internet users (i.e., 0.35% of respondents) provided no response.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Male Internet users shop online more frequently than their female counterparts: 63% of men reported doing so, compared to 57% of women (Figure 4-10, Panel A). Online shopping is also more widespread among younger age groups and appears to be most frequent among the 25 to 39 age group, with 43% of respondents in that age group shopping online often or very often, and another 40% doing so sometimes or rarely (Figure 4-10, Panel B). Internet users with an active work status or who are students are also more regular users of online shopping facilities, with 57% or more of respondents in these categories declaring they shop online at least occasionally, versus 45% or less in the other non-active work status sub-groups (Figure 4-10, Panel C). When looking at the split of respondents who shop online by education level, it is worth noting that 100% of those who have stated having no formal education have also reported never shopping online (Figure 4-10, Panel D). Overall, the proportion of respondents who shop online increases as education levels increase, indicating that more may be needed to facilitate online shopping for those with lower levels of education.

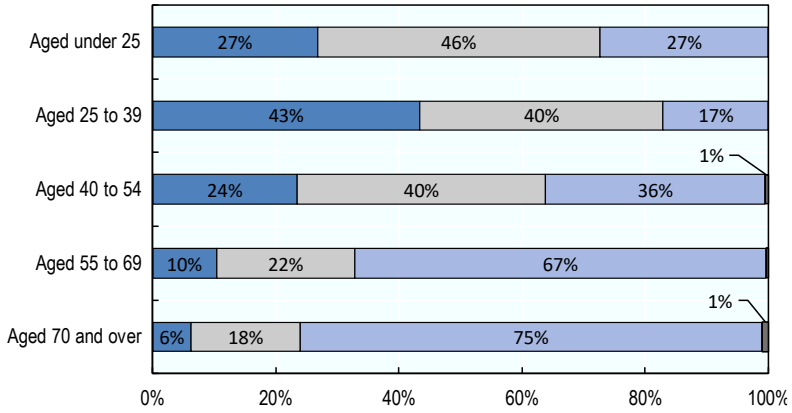
Box 4-4 focuses on Internet users who do not shop online. It provides additional information about their main reason not to shop online, and details some of the activities these users perform online.

Figure 4-10. Frequency of online shopping by gender, education level, age group, and work status

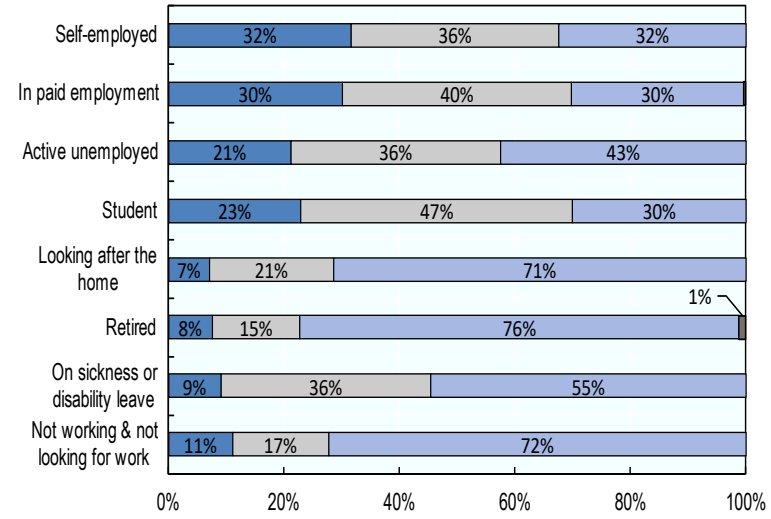
Percentage of Internet users



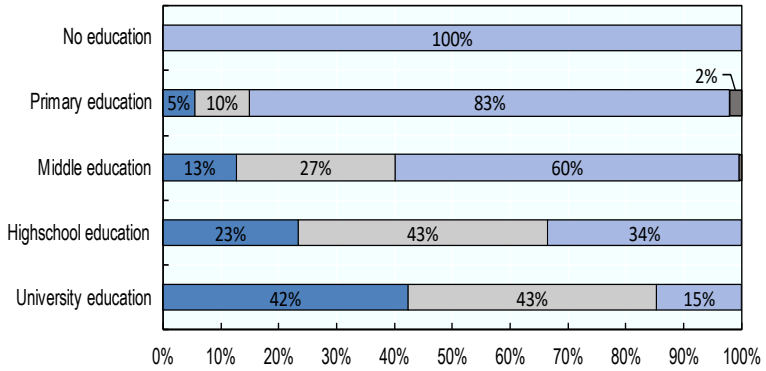
Panel B – By age group



Panel C – By work status



Panel D – By education level



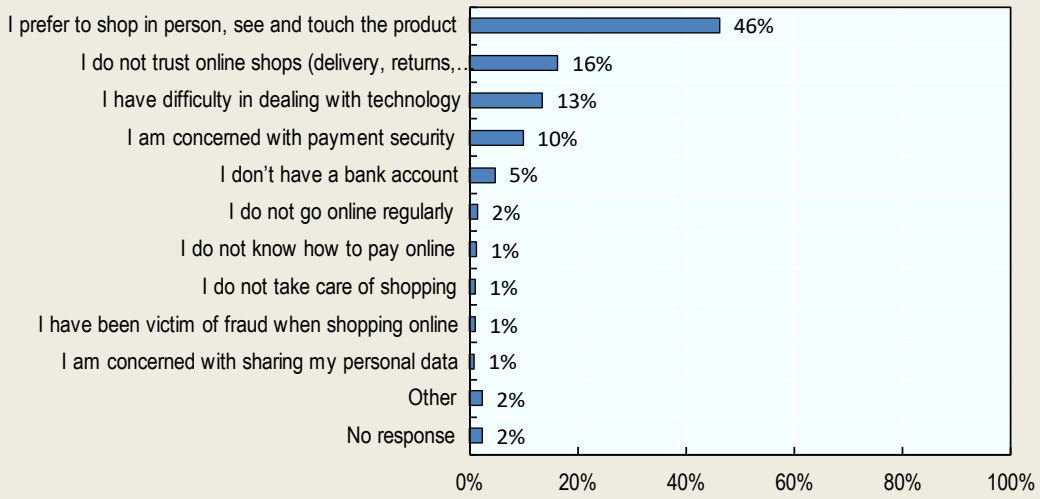
Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Box 4-4. Reasons not to shop online

Around 40% of Internet users said they do not shop online and they may have various reasons for not doing so (Figure 4-11). Respondents indicated that the main reason (46%) was that they prefer to shop in person, to see and touch products before buying. Some 16% of those who said they do not shop online said they do not trust online shops and the process of online shopping, 13% stated having difficulty in dealing with technology and 10% indicated concern with payment security as their main reason not to shop online.

Figure 4-11. Main reason for not shopping online

Percentage of Internet users who do not shop online



Note: Based on 462 observations. One choice per Internet user who does not shop online. 5 of the 462 respondents (i.e., 1%) cited they did not take care of shopping as their main reason not to shop online so a new entry was created "I do not take care of shopping". "Other" responses (11) include: "no need for online shopping" (2 observations), "I do not have a personal contact to clarify my doubts about the product and the buying process" (2 observations), "online shopping is still new" (1 observation), "I am not used to it" (1 observation), "I have had a bad experience when shopping online" (1 observation), "I am not a consumerist person" (1 observation), "I am concerned about the costs of delivery of the goods"(1 observation), "I do not know the applicable legislation" (1 observation), and "I have vision problems" (1 observation).
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Those Internet users who do not shop online may perform various other tasks (Table 4-9). Only 4% of Internet users who do not shop online occasionally reported buying or selling from individuals online through platforms such as Olx, Custojusto, etc. Interestingly, more than 40% of those who reported not shopping online said they still use the Internet to compare the price of goods and services.

Table 4-9. Tasks performed online by Internet users who do not shop online

Percentage of Internet users who do not shop online

	Often / Very often	Sometimes / Rarely	Never	No response
Sending/receiving instant messages	47%	37%	16%	0%
Searching for information online	40%	48%	12%	0%
Making calls or video calls over the Internet	34%	45%	21%	0%
Sending/receiving e-mails	32%	40%	28%	0%
Reading online news / newspapers / magazines	31%	41%	28%	0%
Participating in social networks, reading, or posting messages/photos	31%	42%	27%	0%
Using a computer/laptop to write or organise documents	14%	27%	57%	2%
Undertaking administrative tasks online	13%	18%	68%	1%
Comparing prices of goods and services online	12%	30%	57%	1%
Buying or selling from individuals online	0%	4%	95%	1%

Note: Based on 462 observations. Statements are ordered in descending order of frequency (percentage of "Often/ Very often", then "Sometimes/ Rarely").
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Devices used to shop online and their frequency

Shopping online using a mobile phone, or a tablet is more widespread than using a computer/laptop, although 73% of Internet users who shop online reported using both types of devices (Table 4-10).

Table 4-10. Devices used to shop online

Percentage of respondents who shop online

	Number of respondents	As a percentage of people who shop online
Mobile/tablet and computer/laptop	504	73%
Mobile/tablet only	122	18%
Computer/laptop only	62	9%
TOTAL	*688*	*100%*

Note: Based on 688 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Some 33% of respondents who reported shopping online via their mobile phone or tablet do it often or very often, and 28% of those who shop online via a computer do it often or very often (Table 4-11, Panel A).

The trend towards the use of mobile phones or tablets to shop online is related to age. The analysis of devices used to shop online by age shows that while people aged up to 69 reported using mobile phones or tablets more than computers or laptops to shop online, people aged 70 and over who reported shopping online do so more using a computer or a laptop than a mobile phone or tablet (Table 4-11, Panel B).

Table 4-11. Devices used to shop online, by frequency of online shopping

Percentage of respondents who shop online

Panel A – Overall population

	Mobile phone or tablet	Computer or laptop
Very often / Often	33%	28%
Sometimes / Rarely	58%	55%
Never	9%	17%
TOTAL	*100%*	*100%*

Panel B – By age group

	Mobile phone or tablet				Computer or laptop			
	Very often / Often	Sometimes / Rarely	Never	*TOTAL*	Very often / Often	Sometimes / Rarely	Never	*TOTAL*
Under 25 years	30%	62%	8%	*100%*	31%	55%	14%	*100%*
25 to 39 years	43%	52%	5%	*100%*	32%	48%	20%	*100%*
40 to 54 years	31%	62%	7%	*100%*	25%	59%	16%	*100%*
55 to 69 years	22%	65%	13%	*100%*	23%	55%	22%	*100%*
70 and over	13%	35%	52%	*100%*	22%	69%	9%	*100%*

Note: Based on 688 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Payment means to shop online

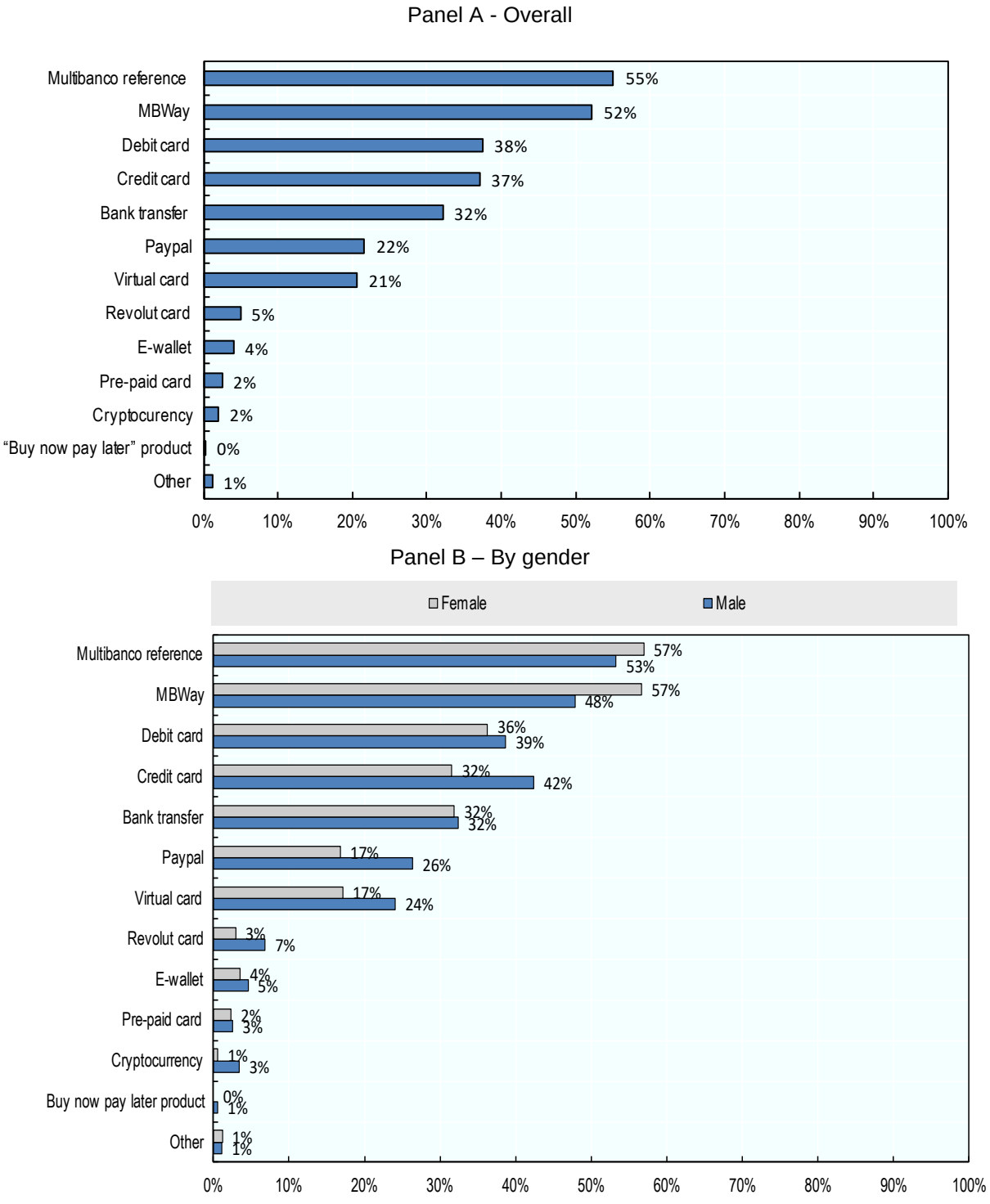
The survey also looked at the payment means used by respondents when shopping online. Figure 4-12, Panel A shows that overall, Multibanco reference (55%) and MBWay (52%) – two payment means specific to the Portuguese reality - are the payment methods used by most respondents when recently shopping online, followed by debit and credit cards. Virtual cards, considered to be a safe online payment method, are still not as widespread. Figure 4-12, Panel B highlights that while the ranking of payment methods does not vary significantly by gender, the proportion of men and women using various payment tools to pay online may still vary. For example, 57% of women who reported shopping online pay with MBWay, compared to 48% of men, and 42% of men who reported shopping online use credit cards to pay for their goods or services purchased online, compared to 32% of women. Apart from Multibanco reference and MBWay, the use of other payment methods is systematically more widespread among men than among women.

The frequency of online shopping may also influence the type of payment methods used. For example, 63% of respondents who said they often or very often purchase goods or services from online shops use MBWay as a payment method, compared to 45% of those who reported shopping online occasionally

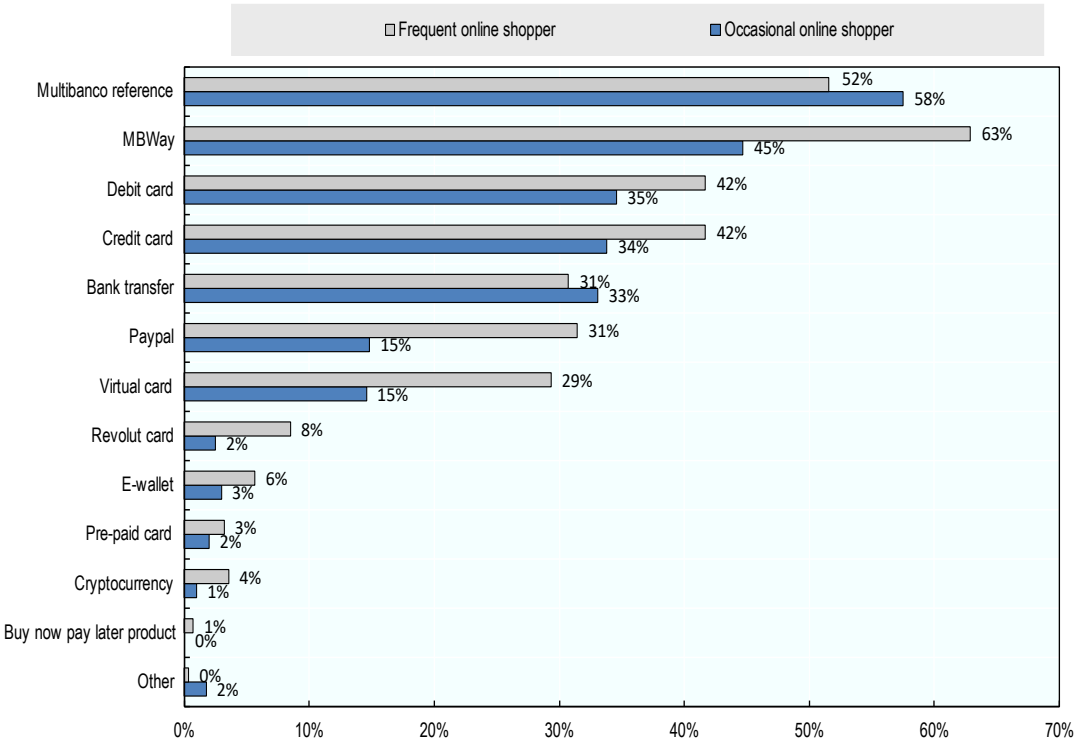
(Figure 4-12, Panel C). The use of Paypal and of virtual cards as means of payment for online shopping is also significantly higher among those who said they shop online regularly (31% and 29%, respectively) than among those who reported shopping online occasionally (15% for each payment method).

Figure 4-12. Payment methods to shop online

Percentage of Internet users who shop online



Panel C – By frequency of online shopping



Note: Based on 688 observations. Results do not add up to 100% as respondents could choose more than one payment method. Frequent online shoppers are defined as shopping online often or very often, on a mobile phone/tablet and/or laptop/computer. Occasional online shoppers are defined as shopping online sometimes or rarely irrespective of the device used.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Safety when paying and shopping online

Several safety measures can be undertaken when shopping online to minimise the risk of fraud or data theft. Among respondents who reported shopping online, 81% said they often or very often verify the reliability of a seller and 77% said they often or very often verify that the website is secure before making a payment (Table 4-12, Panel A). After having made a purchase, 86% of people who shop online in Portugal often or very often said they also verify their bank account to ensure movements correspond to the actual purchase, and this safety behaviour is observed across all age groups in similar proportions. People aged 55 and over are less likely than younger respondents to check if a website is secure and the reliability of a seller before making an online purchase (Table 4-12, Panel B).

Table 4-12. Safety measures implemented when shopping online

Percentage of Internet users who shop online

Panel A – All responses				
	Very often/often	Sometimes/Rarely	Never	No response
I check if the website is secure before buying something online	77%	18%	4%	1%
I check the reliability of the seller before buying something online	81%	15%	3%	1%
After buying something online, I check my account movements to see if the debits correspond to the purchase(s) I made	86%	10%	3%	1%

Panel B – Breakdown of responses "Very often/often" by age group					
Very often/often	Under 25 years	25 to 39 years	39 to 54 years	55 to 69 years	70 years or over
I check if the website is secure before buying something online	81%	78%	80%	70%	57%
I check the reliability of the seller before buying something online	83%	82%	85%	68%	57%
After buying something online, I check my account movements to see if the debits correspond to the purchase(s) I made	93%	85%	87%	77%	87%

Note: Based on 688 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Financial institutions also offer security features to minimise the risk of fraud on online payments. The most common combinations of procedures are: the use of a one-time password received through text message with a password or pin code (26% of respondents), one-time password received through text message with fingerprint validation (13%), password or pin code with fingerprint validation (9%), and one-time password received through text message and facial recognition (6%) (Table 4-13, Panel B). It is worth noting that while strong customer authentication requires a combination of two safety procedures, many respondents have identified only a single safety procedure. For instance, in the case of the one-time password received through text message, 148 respondents (i.e., 31%) have reported only this procedure, which may mean that they have not noticed or been aware of the double-factor authentication.

Men and women do not exhibit significantly different behaviours to secure their online payments. However, there are large differences in the safety procedures applied when paying with a card online by different age groups. Younger age groups are more likely than older groups to apply payment security methods involving facial recognition and fingerprints.

Table 4-13. Safety procedures when making online card payments

Percentage of Internet users who shop online and pay using credit, debit, or other payment cards

Panel A – Safety procedures followed								
	Overall	By gender		By age group				
		Men	Women	Under 25 years	25 to 39 years	39 to 54 years	55 to 69 years	70 years or over
I validate the payment by using a one-time password received through a text message	77%	77%	76%	78%	83%	74%	69%	63%
I validate the payment by using a password or pin code	53%	55%	50%	60%	55%	49%	48%	50%
I validate the payment by using my fingerprint	23%	24%	21%	26%	24%	25%	11%	6%
I validate the payment by using facial recognition	10%	11%	9%	19%	13%	6%	4%	0%

Panel B – Combinations of two safety procedures followed								
	Overall	By gender		By age group				
		Men	Women	Under 25 years	25 to 39 years	39 to 54 years	55 to 69 years	70 years or over
I validate the payment by using a one-time password received through a text message AND I validate the payment by using a password or pin code	26%	30%	22%	27%	29%	23%	24%	17%
I validate the payment by using a one-time password received through a text message AND I validate the payment by using my fingerprint	13%	15%	11%	17%	14%	13%	6%	0%
I validate the payment by using a password or pin code AND I validate the payment by using my fingerprint	9%	11%	6%	12%	10%	8%	5%	0%
I validate the payment by using a one-time password received through a text message AND I validate the payment by using facial recognition	6%	7%	6%	13%	8%	4%	1%	0%
I validate the payment by using a password or pin code AND I validate the payment by using facial recognition	5%	5%	4%	9%	6%	2%	1%	0%
I validate the payment by using my fingerprint AND I validate the payment by using facial recognition	3%	4%	2%	6%	3%	3%	1%	0%

Note: Based on 476 observations. Other payment cards include virtual cards (such as Mbnet cards), pre-paid cards, and Revolut cards. Combinations of more than two procedures are not included in the table, as they most probably indicate the use of several payment cards with different safety procedure combinations attached to each, and those combinations are already accounted for in the combinations of two procedures.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

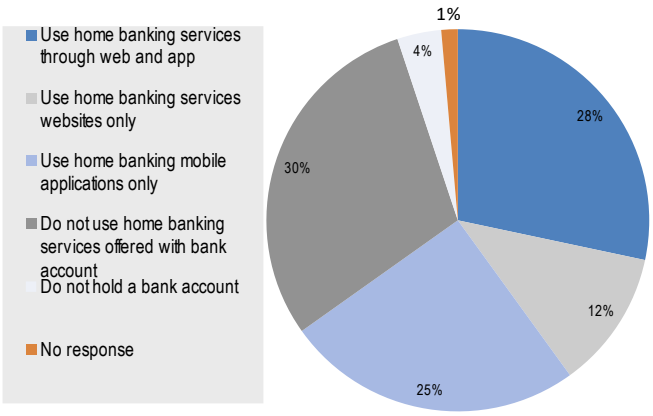
Among the features offered by financial institutions to secure online payments, 57% of respondents who reported using the Internet and 74% of those who reported shopping online know that “Strong customer authentication consists of two-factor authentication to secure online payments”, indicating that more might need to be done to ensure consumers know the existence and the functioning of this digital payment security procedure.

Use of home banking

The survey also assessed the extent to which the Portuguese population uses home banking services, that is digital tools to manage their bank accounts either via a web portal or a mobile application. Some 65% of Internet users said they use home banking services, 12% via a web portal only, 25% via a mobile application only, and 28% through both channels (Figure 4-13). Home banking users represent 50% of total survey respondents.

Figure 4-13. Use of home banking services

Percentage of Internet users



Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

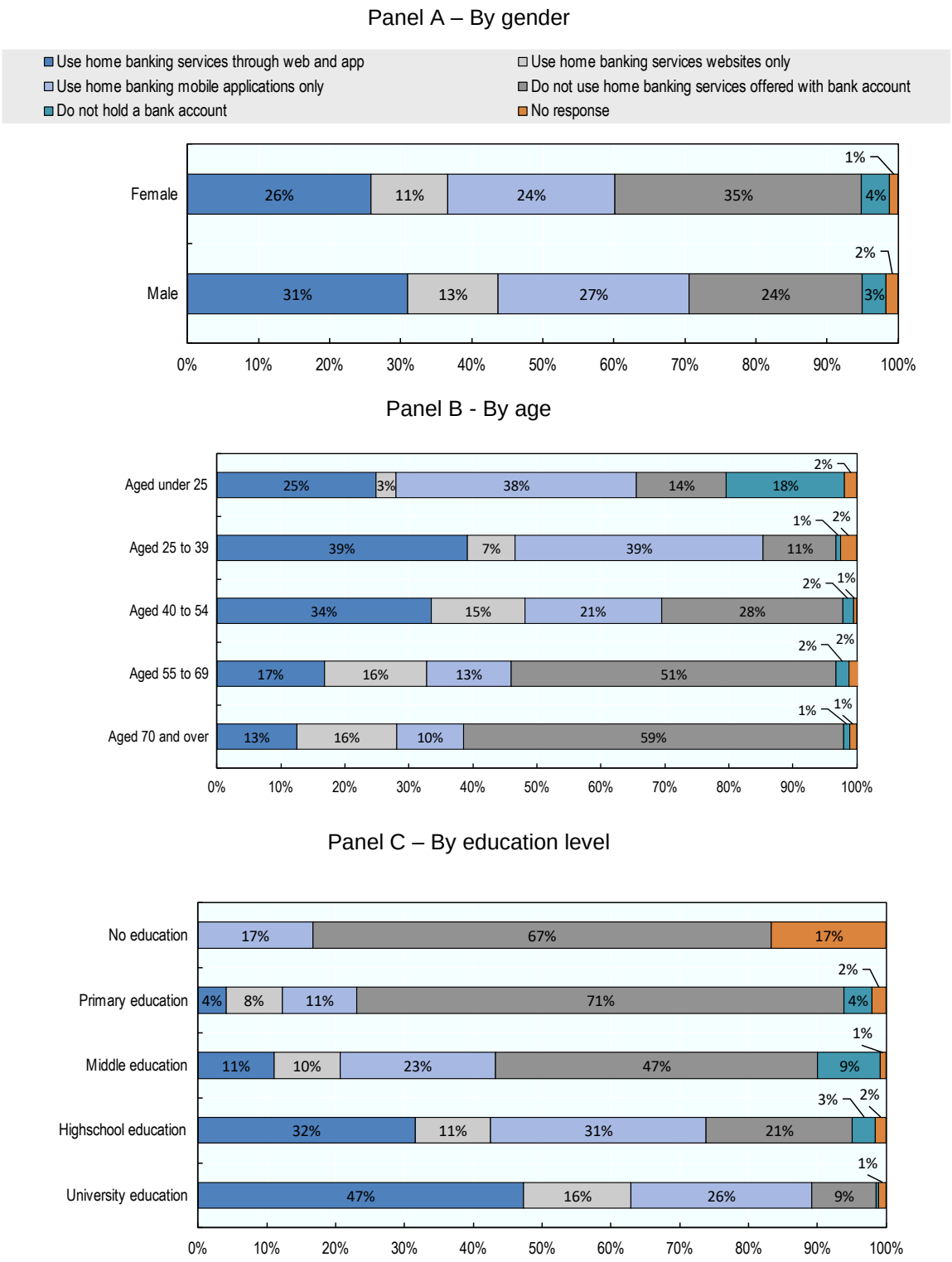
Men use home banking services more than women, as some 71% of men reported using home banking, compared to 61% of women (Figure 4-14, Panel A).

The use of home banking is also greatly related to age. Some 51% of those aged 55 to 69 years old, and 59% of those aged 70 and over said they do not use home banking services offered with their bank account at all, compared to only 14% and 11% respectively of those aged under 25 and 25 to 39 (Figure 4-14, Panel B). Younger generations also tend to prefer mobile applications to banking websites, with around 38% of those aged under 40 reporting using applications only, compared to less than 7% using websites only.

The use of home banking services is increasing with education, as 89% of those with university education reported using home banking services, compared to 74% of those with high school education, 44% of those with middle school education, 23% of those with primary education and 17% of those with no education (Figure 4-14, Panel C).

Figure 4-14. Use of home banking services by gender, age, and education level

Percentage of Internet users



Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Some 82% of users of home banking services said they access these services through their banks' mobile phone applications, and 61% through websites. Banks' mobile applications are not only the most popular channel for home banking, but they also appear to encourage users to connect more regularly: 41% of users of mobile banking applications said they use them almost daily and 34% at least once a week, versus 25% of home banking website users who connect almost daily and 38% at least once a week (Table 4-14).

Table 4-14. Frequency of use of home banking services

Percentage of users of home banking through each channel

	Almost daily	At least once a week	At least once every two weeks	At least once a month	Less than once a month	*TOTAL*
Home banking websites	25%	38%	16%	15%	7%	*100%*
Mobile banking applications	41%	34%	11%	10%	2%	*100%*

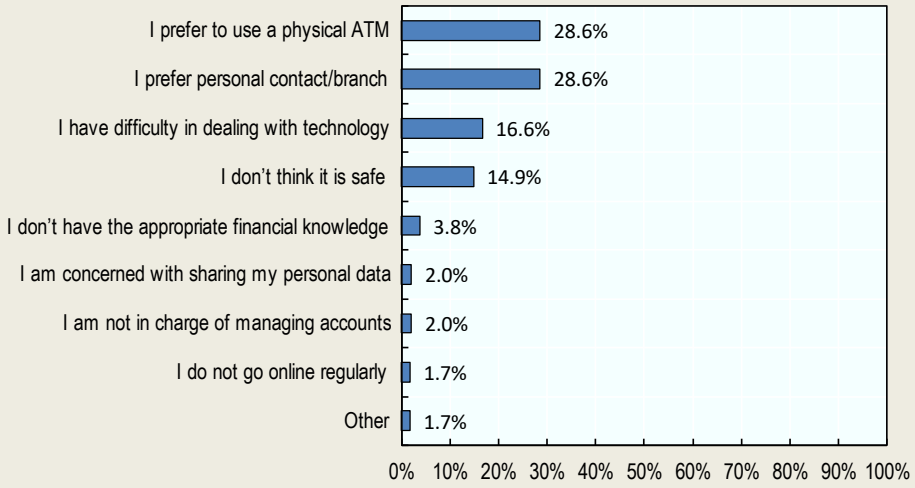
Note: Based on 752 users of home banking, among which 617 use home banking applications and 462 use home banking websites.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Box 4-5. Reasons not to use home banking

Around 30% of Internet users reported having a bank account and not using home banking services. Among the possible reasons not to use home banking services offered by their bank, respondents selected the preference for using a physical ATM and for personal contact at the branch (about 29% each), before the difficulty brought about by technology (more than 16% of non-users of home banking services), as shown in Figure 4-15.

Figure 4-15. Main reason for not using home banking services

Percentage of Internet users who hold a bank account and do not use home banking services



Note: Based on 343 observations. One choice per Internet user who does not use home banking services offered with their bank account. "Other" responses include: "I have been a victim of fraud when attempting to do so" (2 observations), "I do not see the point/the advantages" (2 observations), "I don't have time" (1 observation), and "I have vision problems" (1 observation).
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Internet users who have a bank account and do not use home banking services perform other activities online (Table 4-15). In particular, some 21% of them reported shopping online, while over 80% reported using the Internet to search for information online and send/receive instant messages and 72% reported participating in social media.

Table 4-15. Tasks performed online by Internet users who do not use home banking

Percentage of Internet users who hold a bank account and do not use home banking services

	Often / Very often	Sometimes / Rarely	Never	No response	*TOTAL*
Sending/receiving instant messages	44%	39%	17%	0%	*100%*
Searching for information online	35%	52%	12%	0%	*100%*
Making calls or video calls over the Internet	34%	43%	22%	0%	*100%*
Participating in social networks, reading, or posting messages/photos	27%	45%	28%	0%	*100%*
Sending/receiving e-mails	27%	41%	31%	1%	*100%*
Reading online news / newspapers / magazines	24%	44%	32%	0%	*100%*

Using a computer/laptop to write or organise documents	13%	25%	60%	2%	*100%*
Comparing prices of goods and services online	10%	32%	57%	1%	*100%*
Undertaking administrative tasks online	8%	19%	71%	1%	*100%*
Buying from online shops	4%	17%	78%	1%	*100%*
Buying/selling online from/to individuals	1%	9%	88%	1%	*100%*

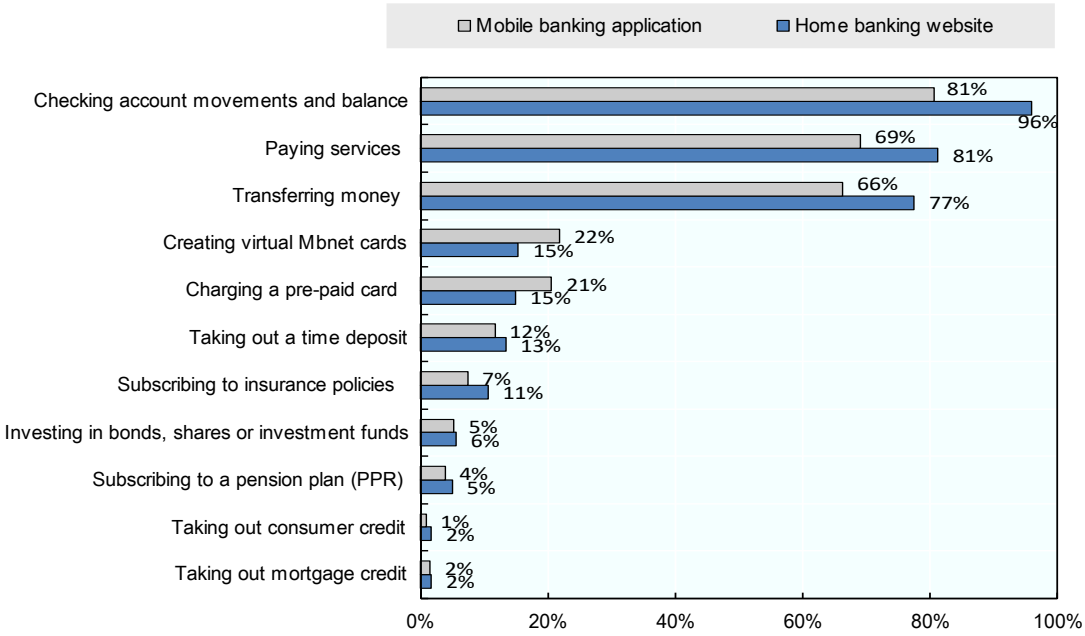
Note: Based on 343 observations. Tasks are ordered in descending order of frequency (percentage of "Often/Very often", then "Sometimes/Rarely").
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Activities carried out through home banking services

Various activities can be carried out via home banking websites and applications. Most users said they check their account movements and balances, pay services and transfer money through their home banking portal (Figure 4-16). Relatively more users of home banking websites said they check their account movements and balances (96%), use payment services (81%) and transfer money (77%) than users of mobile applications (81%, 69% and 66% for each activity respectively). However, users of mobile applications who carry out these activities may perform them more regularly than users of home banking websites, as shown in Table 4-14 on the frequency of use of various home banking channels.

Figure 4-16. Activities carried out via home banking services

Percentage of home banking users using each service



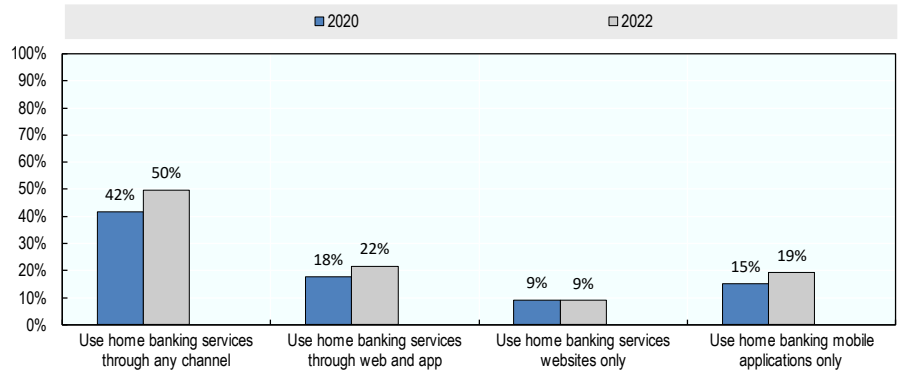
Note: Based on 752 observations. Results do not add up to 100% as respondents could choose more than one service.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Changes related to the use of home banking

Comparing the survey data to results reported in the Banco de Portugal Report on Financial and Digital Inclusion and Choice of Banking Products in Portugal (Banco de Portugal, 2021[17]) shows that the use of home banking services in Portugal has increased the previous data collection (in late 2019/early 2020, before the COVID-19 pandemic started)[46]. In 2020, 42% survey respondents used home banking services, and in 2022, this proportion represents 50% of the population. In particular, the usage of home banking mobile applications has increased from 15% to 19% of respondents between 2020 and 2022 (Figure 4-17).

Figure 4-17. Increase in the use of home banking services since 2020

Percentage of all respondents

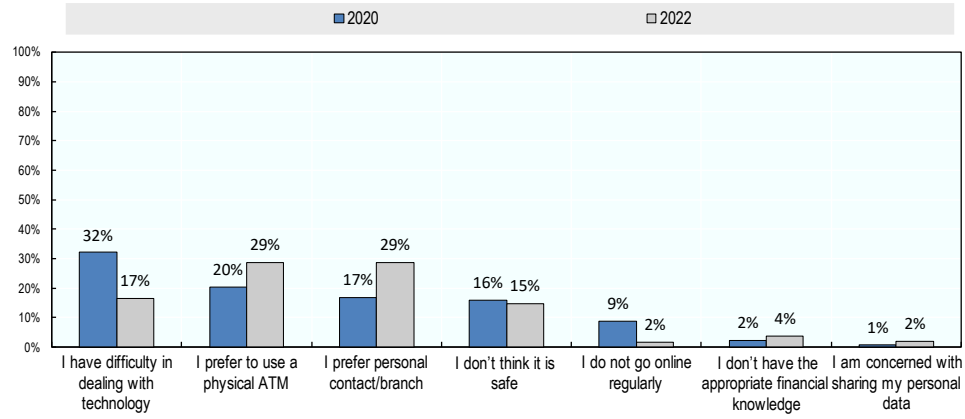


Note: Based on 1 502 observations in 2020, and 1 516 observations in 2022. In 2020, respondents were not asked about Internet use. In order to make numbers comparable between both surveys, the proportion of users of home banking services is computed over all respondents for both 2020 and 2022. In previous pages, e.g., in Figure 4-13, the percentage of home banking users for 2022 is computed over Internet users.
Source: (Banco de Portugal, 2021[17]), OECD 2022 survey to measure the digital financial literacy of the Portuguese population

The reasons not to use home banking services have also changed since 2020. Figure 4-18 shows that while in 2020, 32% of respondents reported having difficulty in dealing with technology as the main reason not to use home banking tools, this number has gone down to 17% of respondents in 2022. The proportion of respondents who prefer using a physical ATM and to have physical contact at the branch has on the contrary increased since 2020, from 20% to 29% and from 17% to 29% respectively. This may indicate that Internet users who do not use home banking today may therefore choose not to, rather than not feel able to do so.

Figure 4-18. Changes in main reason not to use home banking, since 2020

Percentage of respondents who hold a bank account and do not use home banking services



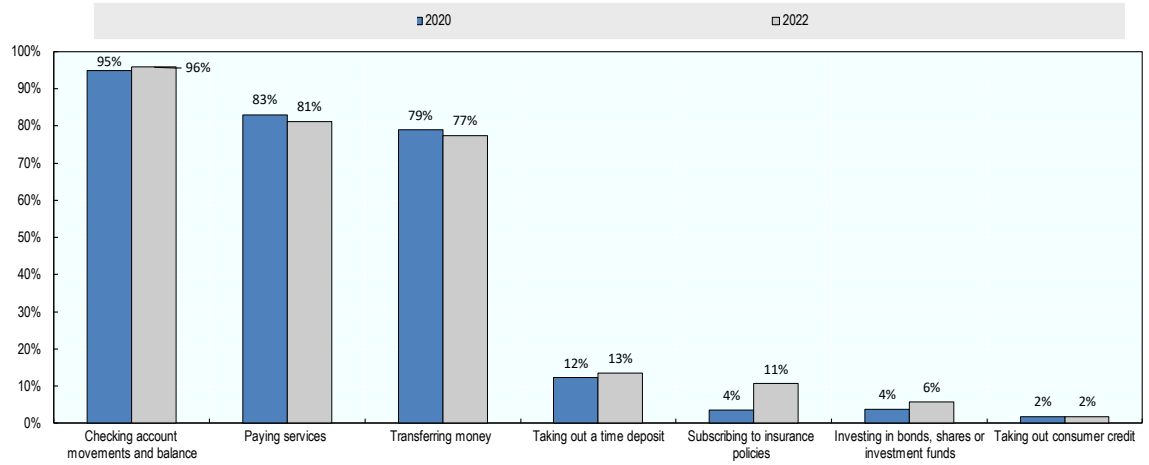
Note: Based on 730 observations in 2020, and 343 observations in 2022. In the 2020 survey, the percentage was computed over respondents who held a bank account and do not use home banking services, while in 2022 it has been computed over Internet users holding a bank account and who do not use home banking services. Only those reasons that were cited in both the 2020 and the 2022 surveys are shown in the above figures.
Source: (Banco de Portugal, 2021[17]), OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Many activities performed via home banking services and tested in both 2020 and 2022 have remained relatively stable, as shown in Figure.4-19.

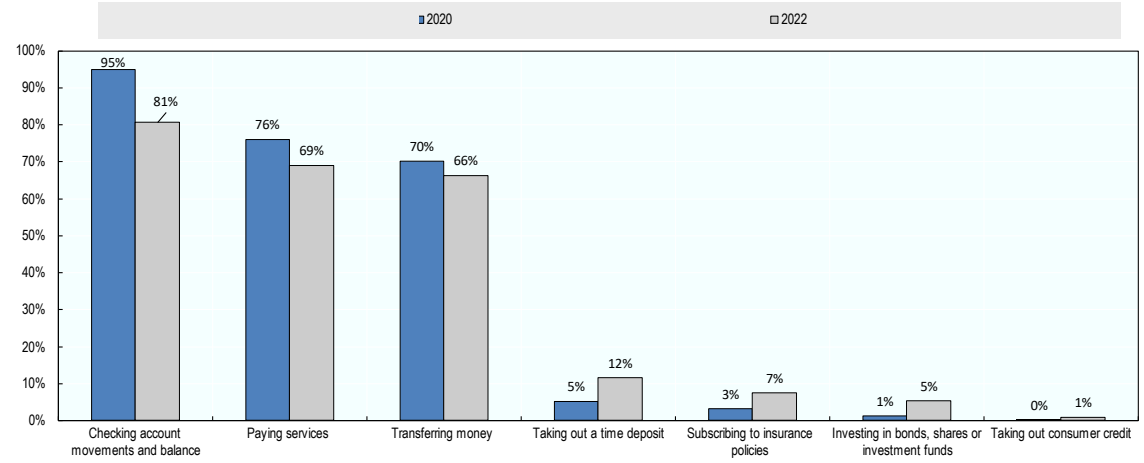
Figure.4-19. Activities performed through home banking both in 2020 and 2022

Percentage of users of home banking services

Panel A – Via home banking websites



Panel B – Via home banking mobile applications



Note: Based on 403 observations for home banking websites and 494 observations for mobile banking applications in 2020, and on 462 observations for home banking websites and 617 observations for mobile banking applications in 2022. Only those activities that were in both the 2020 and the 2022 surveys are shown in the above figures.
Source: (Banco de Portugal, 2021[17]), OECD 2022 survey to measure the digital financial literacy of the Portuguese population

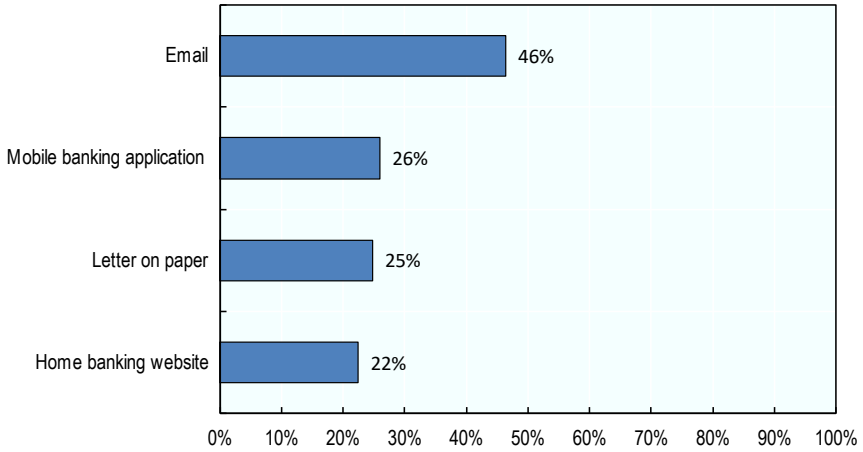
Bank statements

Home banking services can also be used as a communication method for banking institutions to send regular bank statements to their customers. The preferred channel to receive bank statements in Portugal

is via email (46%). Mobile banking applications, paper format and home banking websites are used by a similar proportion of bank account holders (between 22% and 26%) (Figure 4-20).

Figure 4-20. Format to receive bank statements

Percentage of Internet users who hold a bank account



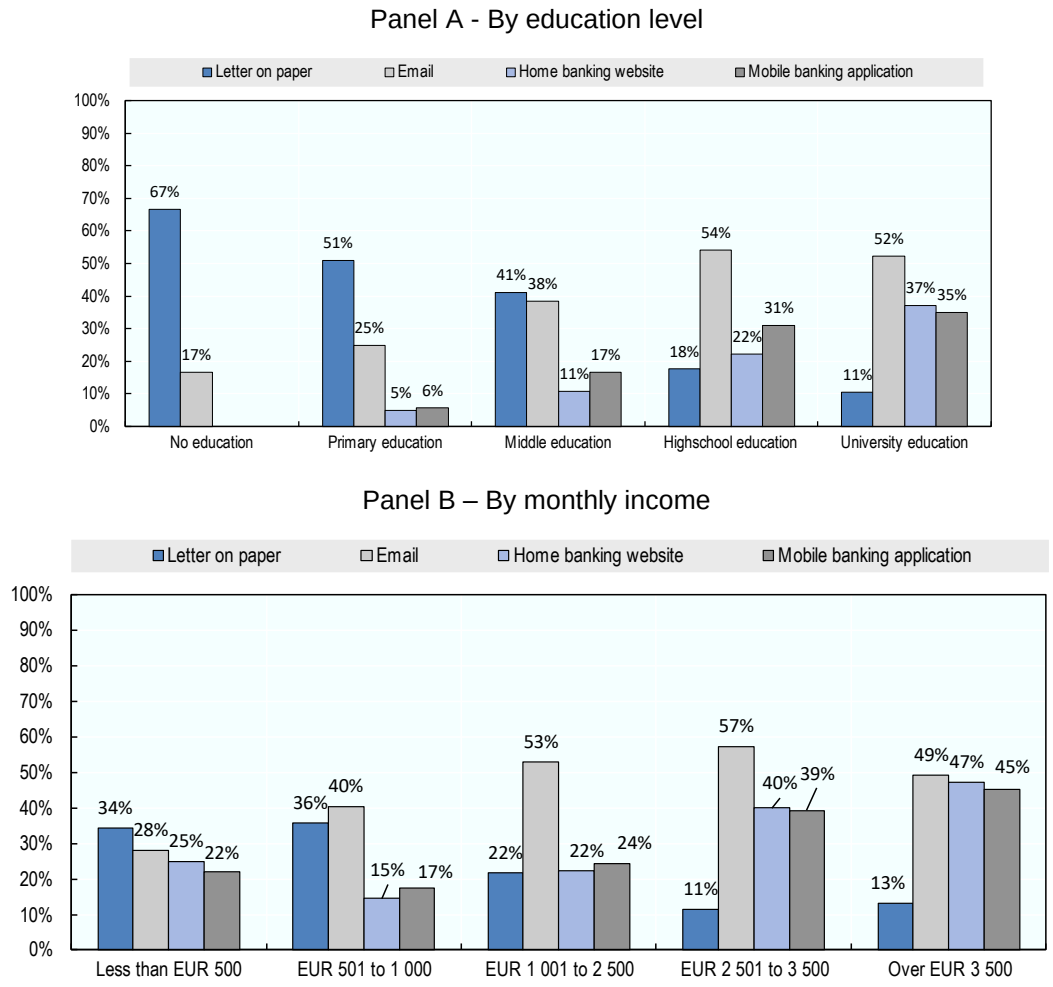
Note: Based on 1 111 observations. Results do not add up to 100% as respondents could choose more than one format.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Education appears to be related to bank statement preferences, as 67% of those with no education said they prefer receiving their regular statements by paper, compared to 11% of those with a university degree (Figure 4-21, Panel A).

Monthly household income may also be related to people's preferences to receive bank statements. For example, data from the survey show that only 13% of those with an income over EUR 3 500 per month choose to receive their bank statements in paper format, compared to 34% of those with less than EUR 500 per month (Figure 4-21, Panel B).

Figure 4-21. Bank statement preferences, by monthly household income and education

Percentage of Internet users who hold a bank account



Note: Based on 1 111 observations. Results do not add up to 100% as respondents could choose more than one format.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Safety when using home banking

While home banking can facilitate many banking activities and encourage people to regularly check their accounts and movements, it may also be a source of increased online risk if appropriate safety procedures are not followed. Some 75% of home banking users said they often or very often log off their home banking website or mobile application after using it, which is considered a safe behaviour (Table 4-16). However, only 21% of users said they regularly change their home banking access passwords, which indicates more may need to be done to encourage this safe behaviour.

Table 4-16. Safety procedures implemented when using home banking services

Percentage of users of home banking services

	Very often/often	Sometimes/Rarely	Never	No response
I log off from my account on the home banking (website)	75%	11%	13%	1%
I change my passwords to access home banking/mobile banking apps	21%	49%	29%	1%

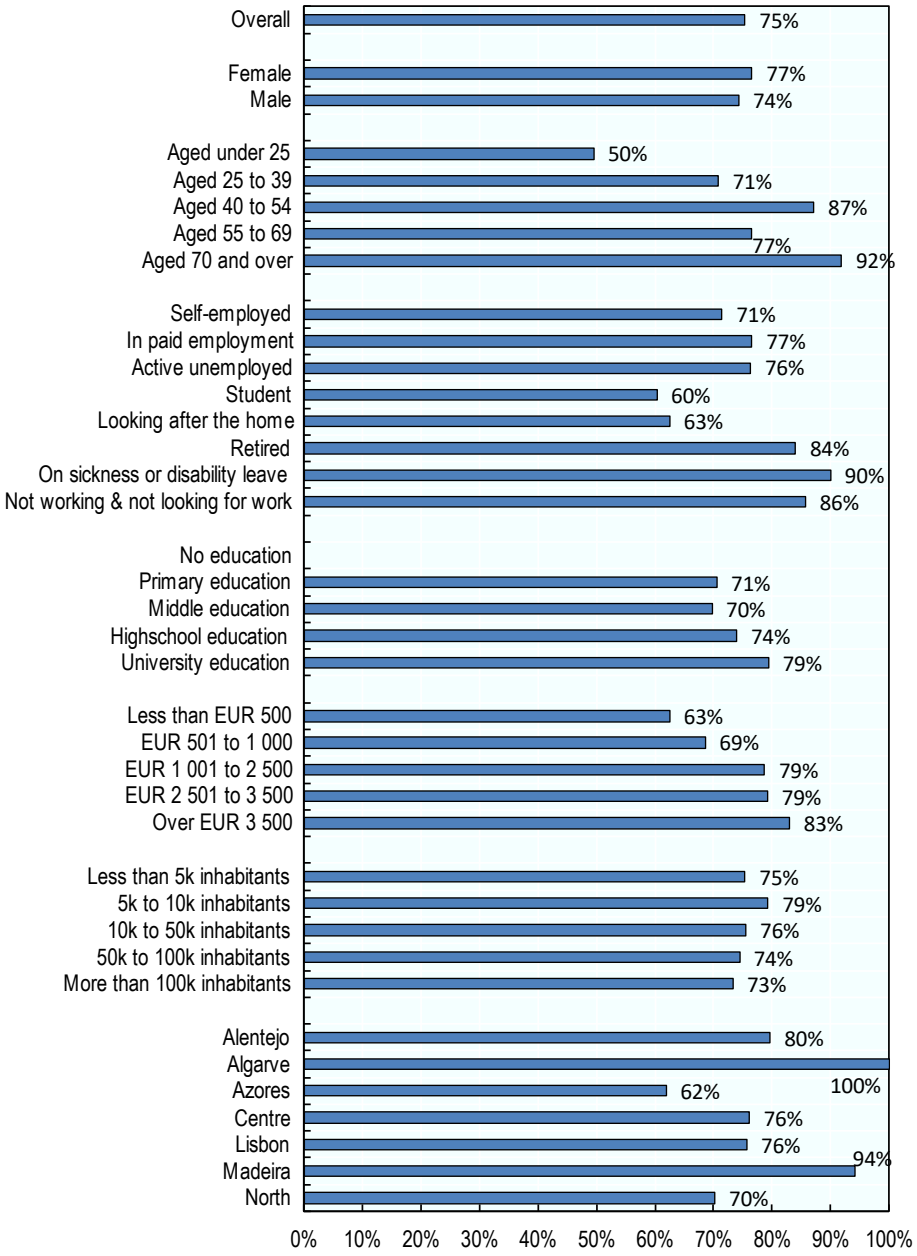
Note: Based on 752 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Younger users of home banking services are less likely to log off from their account after using such services: only 50% of those under the age of 25 regularly reported doing so, compared to over 70% of those aged 25 and above (Figure 4-22, Panel A). Higher household income levels also appear to be associated with an increased likelihood of logging off from home banking, with 63% of those with an income lower than EUR 500 per month regularly doing so, compared to 83% of those with an income higher than EUR 3 500.

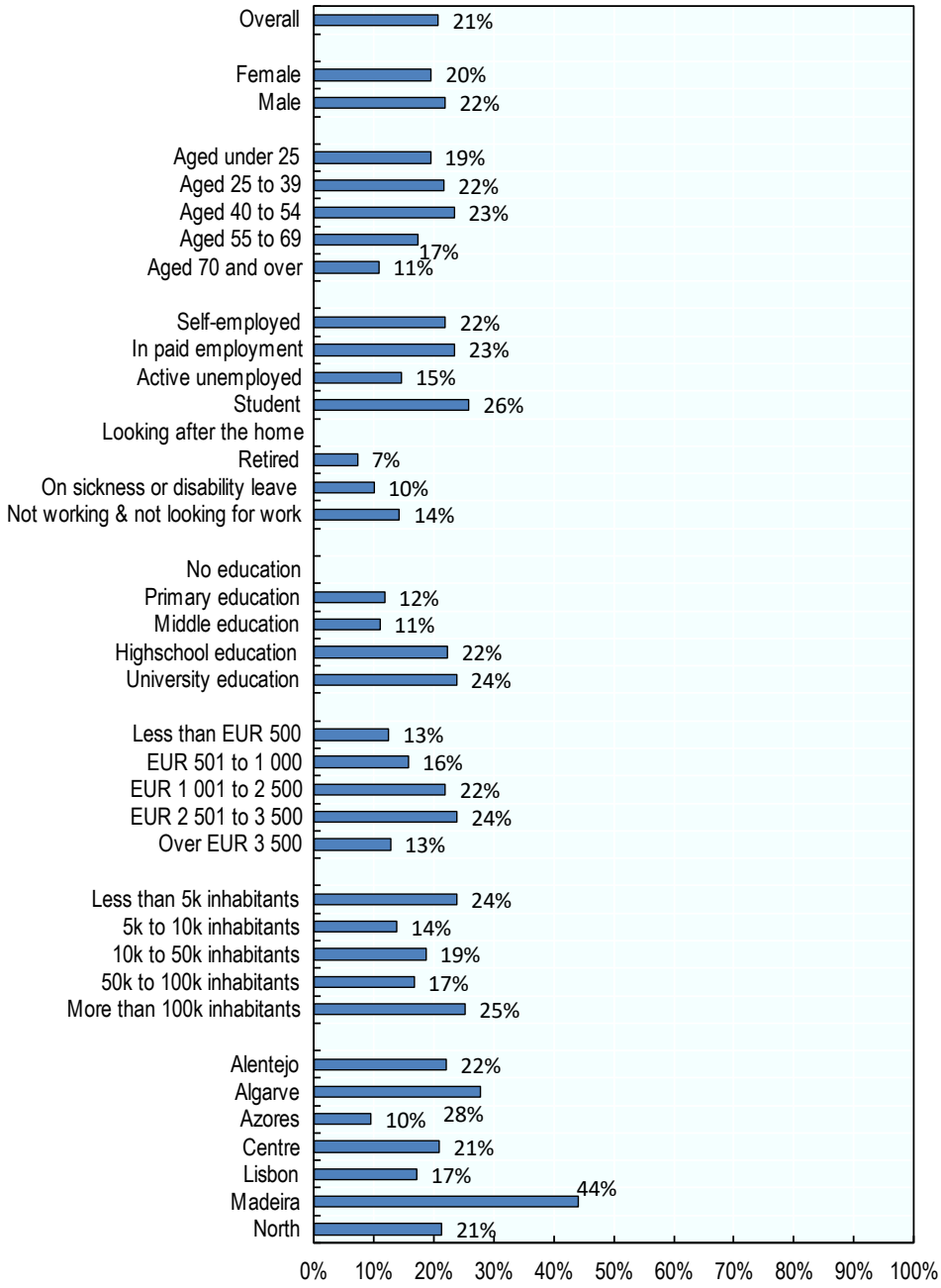
Home banking users aged 55 and above change their password to access such services less frequently than younger users (Figure 4-22, Panel B). Users of home banking with higher education attainment said they change their home banking password more regularly than those with lower education levels, from 12% and 11% respectively for respondents with primary and middle school level education, to 22% and 24% respectively for those with high school and university education.

Figure 4-22. Safety procedures when using home banking, overall and by population sub-groups

Panel A – Proportion of home banking users who often or very often log off after using home banking websites or mobile banking apps



Panel B – Proportion of users who change their home banking access password often or very often



Note: Based on 752 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Use of other digital financial services

Aside from home banking websites and mobile applications, the survey also investigated the awareness and the use of various digital financial services and tools, and the performance of certain financial activities fully online. Those who use other (more sophisticated) digital financial products and/or perform certain activities fully online represent 44% of total respondents and 58% of Internet users. They are referred to in this analysis as “users of other digital financial services”.

Awareness and use of digital financial products and services

Some 92% of Internet users in Portugal who hold a bank account have heard of MBWay, and 51% have actually used this payment service in the two years preceding the survey (Table 4-17). For all other products tested in the survey, most respondents have either heard of the product but never used it, or never heard of the product. For example, only 7% of Internet users with a bank account said they use digital budgeting tools, although 45% know this service exists.

Table 4-17. Awareness and use of various digital financial services or products

Percentage of Internet users who have a bank account, usage in the last two years

	Used often / very often	Used sometimes / rarely	Heard of product/service but never used it	Never heard of product/service	No response	*TOTAL*
MBWay	32%	19%	41%	7%	2%	*100%*
Digital services for transferring money other than home banking (e.g., Paypal, Revolut, etc.)	10%	15%	52%	21%	3%	*100%*
E-wallet for making payments (e.g., Apple Pay, Google Pay)	5%	10%	58%	25%	2%	*100%*
Online comparison tools for financial products (credit, insurance etc.)	2%	10%	38%	48%	3%	*100%*
Digital budgeting tools	2%	5%	38%	52%	3%	*100%*
Crypto-assets (e.g., Bitcoin, Ethereum)	1%	4%	64%	28%	3%	*100%*
Smartwatch for making payments	1%	4%	60%	32%	3%	*100%*
Online trading platforms (e.g., etoro, degiro, etc.)	2%	2%	29%	63%	4%	*100%*
Online platform or app that aggregates several bank accounts and payment services (e.g., Dabox, Unido)	1%	2%	38%	56%	4%	*100%*
Crowdfunding (e.g., Raize)	0%	3%	37%	56%	4%	*100%*
Payment initiation services	1%	2%	20%	72%	6%	*100%*
Automated investment services (robo-advice)	0%	2%	26%	68%	5%	*100%*

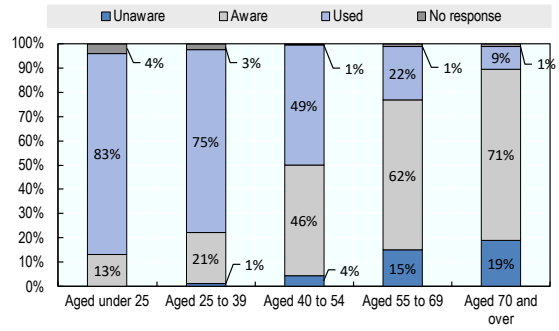
Note: Based on 1 111 observations. Products and services are ordered in descending order of usage (percentage of "Used often/very often", then "Used sometimes/rarely"), and then of awareness.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Age appears to play a role in the use and awareness of digital financial products. Looking at the four most used products shown in Table 4-17, Figure 4-23 shows the split of use and awareness by age group. Usage of MBWay and of digital services for transferring money other than through home banking tools decreases with age (Figure 4-23, Panels A and B). For E-wallets and online financial product comparison tools, the trend seems broadly similar, although the highest usage appears in the second youngest age group, i.e., for respondents aged 25 to 39 (Figure 4-23, Panels C and D).

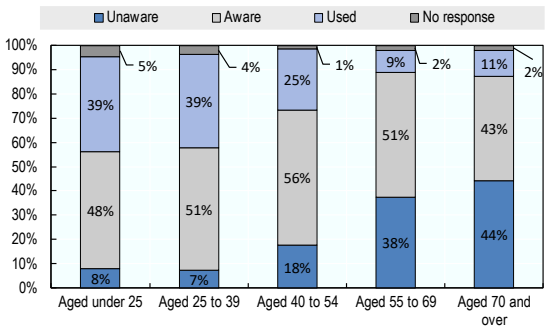
Figure 4-23. Use and awareness of digital financial services by age group

Percentage of Internet users who have a bank account, usage in the last two years

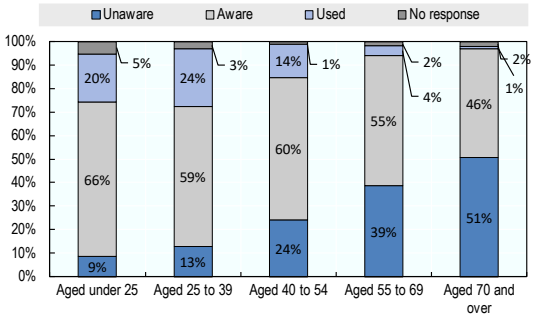
Panel A – MBWay



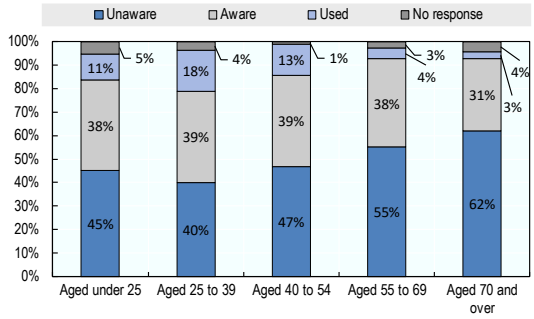
Panel B – Digital services for transferring money



Panel C – E-wallet for making payments



Panel D – Online financial comparison tools



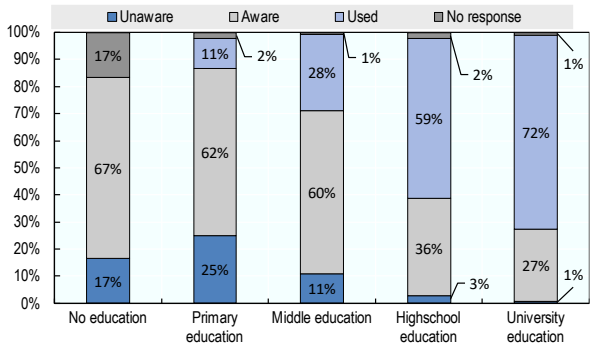
Note: Based on 1 111 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Education also appears to be associated with higher use levels for various financial products and services tested in the survey (Figure 4-24). Respondents with university level education have more often used the products below than those with lower levels of education. For awareness, respondents with no to middle education tend to be more unaware of the products below than their counterparts with higher educational attainment.

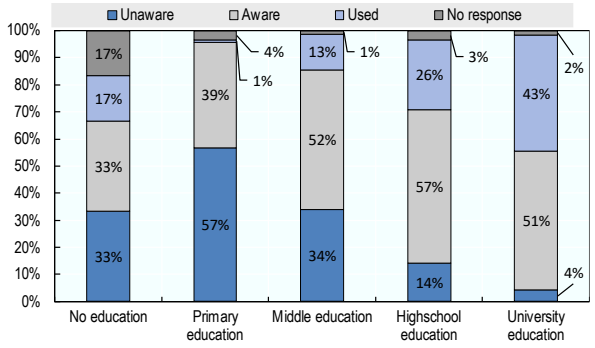
Figure 4-24. Use and awareness of digital financial services by education level

Percentage of Internet users having a bank account, usage in the last two years

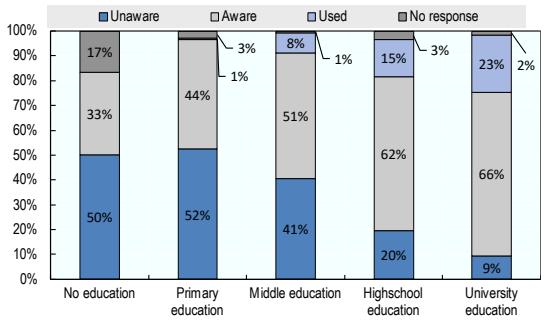
Panel A – MBWay



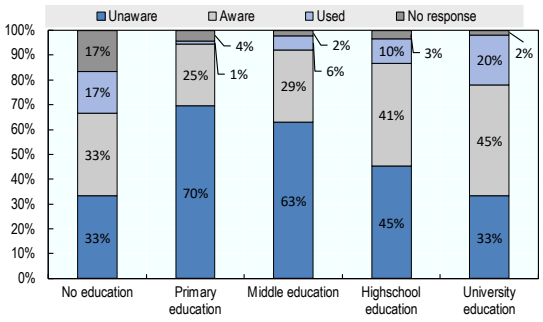
Panel B – Digital services for transferring money



Panel C – E-wallet for making payments



Panel D – Online financial comparison tools



Note: Based on 1 111 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Changes in usage of digital financial services

Since the outbreak of the COVID-19 pandemic, digitalisation has increased significantly in many aspects of the daily life of citizens. The 2022 survey did only look at the awareness and use of various digital financial products and services among the Portuguese population, but it also assessed the changes in the use of digital financial services by respondents since the COVID-19 pandemic.

The use of many digital financial services and tools has increased among the population in Portugal since 2020, as illustrated in Table 4-18. Half (or more than half) of 2022 users of most digital financial products below were already using them in 2020. This suggests that the COVID-19 pandemic may have accelerated certain trends related to the digitalisation of financial services, but that these trends were already under way before the COVID-19 outbreak. For example, the usage of MBWay has increased by 18 percentage points between 2020 and 2022, that of e-wallets by six percentage points, and that of digital services to transfer money has increased by five percentage points.

Table 4-18. Change in percentage of users of various digital financial services or products over time

Percentage of Internet users who hold a bank account

	2022 users	2020 users	New users (difference 2022-2020)
MBWay	51%	33%	18%
Digital services for transferring money other than home banking (e.g., Paypal, Revolut, etc.)	25%	20%	5%
E-wallet for making payments (e.g., Apple Pay, Google Pay)	15%	9%	6%
Online comparison tools for financial products (credit, insurance etc.)	12%	8%	4%
Digital budgeting tools	7%	5%	2%
Crypto-assets (e.g., Bitcoin, Ethereum)	5%	3%	2%
Smartwatch for making payments	5%	3%	2%
Online trading platforms (e.g., etoro, degiro, etc.)	4%	1%	3%
Online platform or app that aggregates several bank accounts and payment services (e.g., Dabox, Unido)	3%	1%	2%
Crowd-funding (e.g., Raize)	3%	1.5%	1.5%
Payment initiation services	3%	2%	1%
Automated investment services (robo-advice)	2%	1%	1%

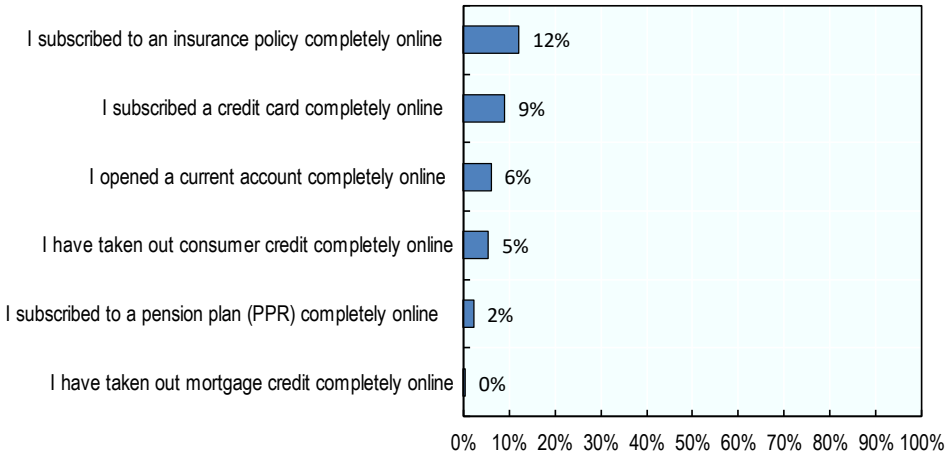
Note: Based on 1 111 observations. Products and services are ordered in descending order of 2022 usage.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Digital activities performed other than through home banking

A limited number of Portuguese have subscribed to financial products and services completely online other than through the home banking website or application of their banking institution. Around 12% of Internet users who have a bank account have subscribed to an insurance contract completely online with a website or application that is not their home banking service, 9% to a credit card, 6% to a current account, 5% to a consumer credit and 2% to a pension product, as illustrated in Figure 4-25.

Figure 4-25. Financial activities performed fully online other than through home banking

Percentage of Internet users who have a bank account



Note: Based on 1 111 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Among those who have opened a bank account completely online through a website that is not their regular bank's home banking website or application, 70% have done so with a fully digital bank, that is a bank that has no physical branch. This proportion greatly varies by gender, as it ranges from 48% for women to 81% for men.

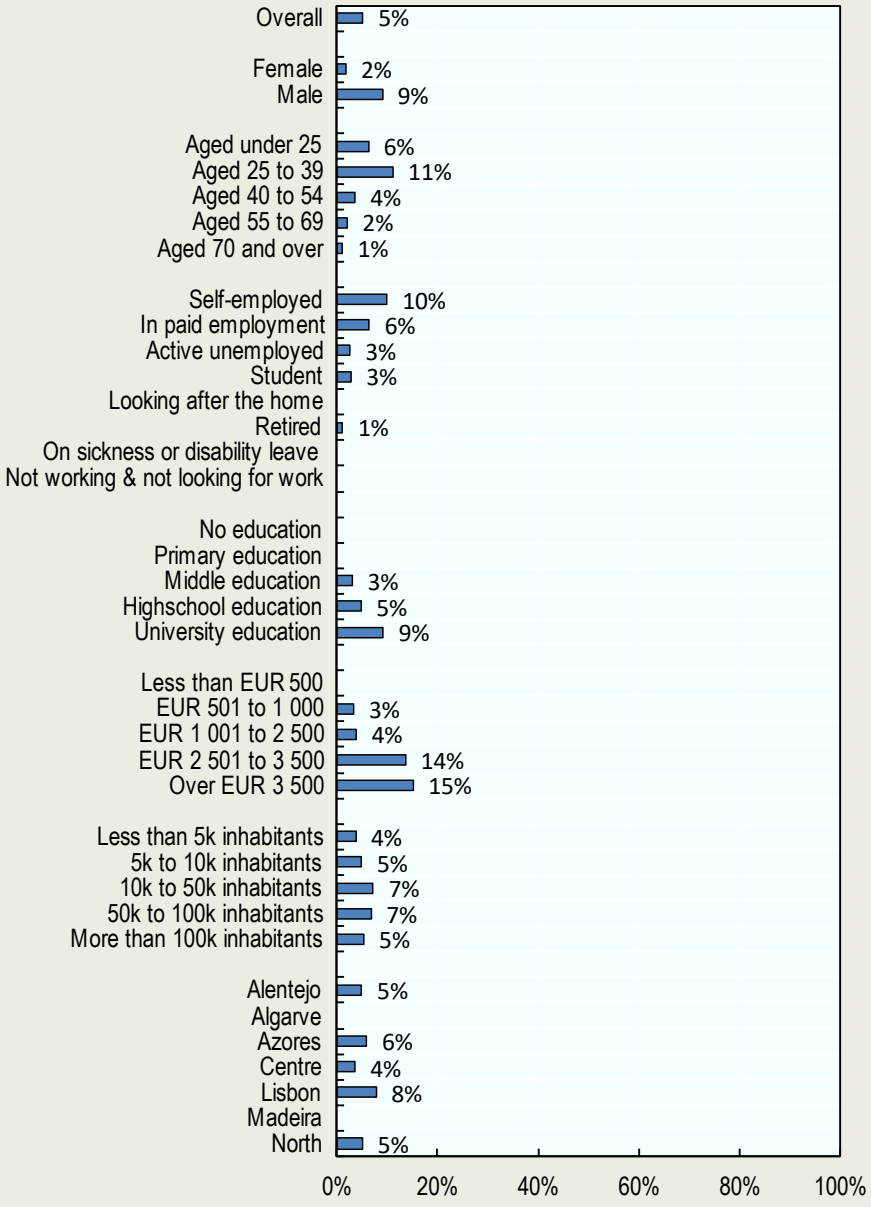
Box 4-6. Focus on crypto-assets

The survey looked into the awareness, use and understanding of crypto-assets such as Bitcoin or Ethereum.

Overall, 5% of respondents who use the Internet and have a bank account have purchased or sold crypto-assets in the two years prior to the survey. Another 64% have heard of crypto-currencies but not used them, and 28% have not heard of crypto-assets. Figure 4-26 shows the proportion of users of crypto-assets by population sub-groups. Younger age groups have used crypto-assets more than older ones, and the highest percentage of users is found among respondents aged between 25 and 39 years old (11%). The two highest income groups also have higher percentages of users of crypto assets than other income categories.

Figure 4-26. Use of crypto-assets in last two years, overall and by population sub-groups

Percentage of Internet users who hold a bank account

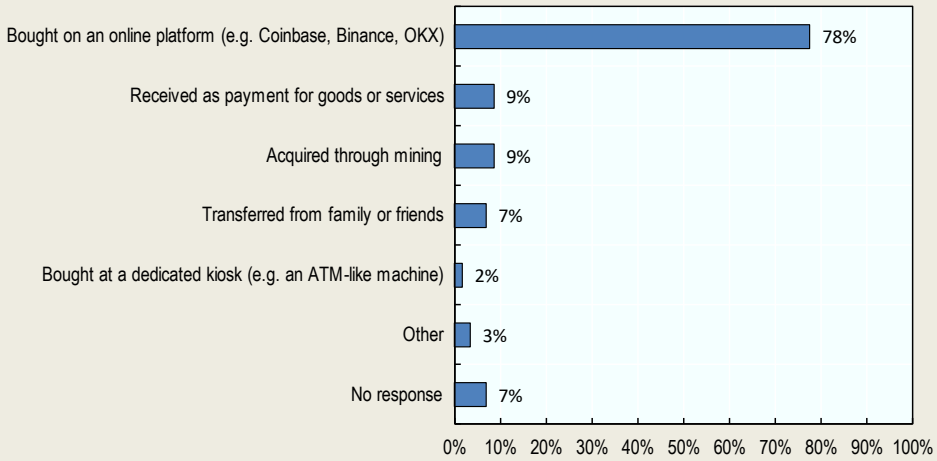


Note: Based on 1 111 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Among users of crypto-assets, 78% bought them on an online platform (Figure 4-27), while other means of acquisition represent less than 10% each.

Figure 4-27. How crypto-assets are acquired

Percentage of holders of crypto-assets

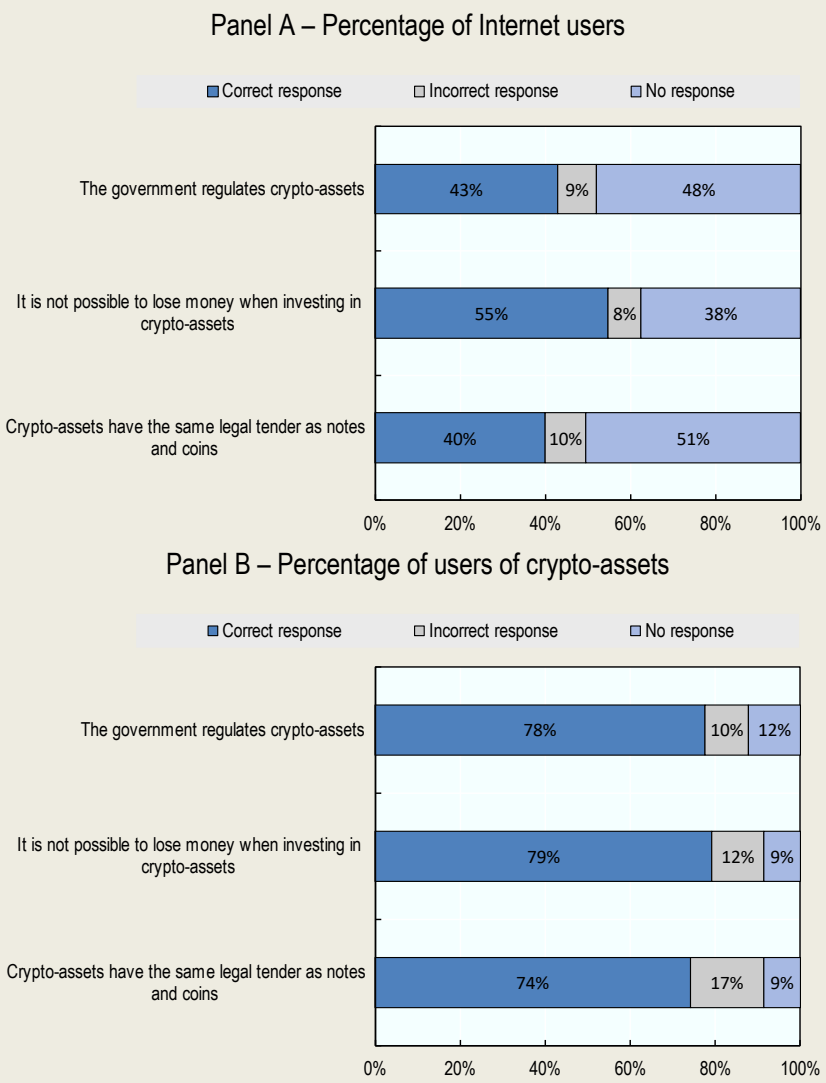


Note: Based on 58 observations. Results do not add up to 100% as respondents could choose more than one answer. "Other" channels of acquisition mentioned by respondents include through a broker and through Revolut.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

There is generally limited knowledge about crypto-assets in Portugal (Figure 4-28, Panel A). Some 40% of all Internet users understand that crypto-currencies do not have the same legal tender as notes and coins, and 43% know that the government does not regulate crypto-assets. Some 55% of all Internet users understand that it is possible to lose money when investing in crypto-assets. A large proportion of Internet users report not knowing the response to questions about crypto-currencies.

A positive finding is that users of crypto-assets perform much better on knowledge questions, with correct response rates above 70% for all three knowledge questions. A significantly lower percentage of them report not knowing the answer to knowledge questions about crypto-assets, as shown in (Figure 4-28, Panel B). However, it is worth noting that the sample of users of crypto-assets is relatively limited, with 58 observations, hence results may need to be interpreted with caution.

Figure 4-28. Knowledge about crypto-assets



Note: Based on 1 154 observations for Internet users (Panel A), and 58 observations for users of crypto-assets (Panel B).
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Attitudes towards crypto-assets are also an interesting learning from the survey (Table 4-19). For the three attitudes tested in the survey, the percentage of "no response" is much higher for DFS users in general than for holders of crypto-assets. For instance, when asked about their perception about the value of crypto-assets as an investment, 43% of DFS users did not respond. This percentage falls to 5% for those who have used crypto-assets in the past two years. Users of crypto-assets appear to be more convinced that crypto-assets are an investment rather than a means of payment (57% versus 29% among DFS users), that they can easily be converted into cash (67% versus 22% among DFS users). Also, 50% of users of crypto-assets and 50% of DFS users think they facilitate illegal activities.

Table 4-19. Attitudes towards crypto-assets

Panel A - Percentage of DFS users				
	Strongly agree/Agree	Neither agree nor disagree	Disagree/Strongly disagree	No response
Crypto-assets are more valuable as an investment than a means of payment	29%	13%	15%	43%
Crypto-assets can easily be converted into cash	22%	12%	24%	42%
Crypto-assets facilitate illegal activities	50%	12%	7%	31%
Panel B - Percentage of users of crypto-assets				
	Strongly agree/Agree	Neither agree nor disagree	Disagree/Strongly disagree	No response
Crypto-assets are more valuable as an investment than a means of payment	57%	26%	12%	5%
Crypto-assets can easily be converted into cash	67%	9%	19%	5%
Crypto-assets facilitate illegal activities	50%	17%	26%	7%

Note: Based on 873 observations for DFS users (Panel A), and 58 observations for users of crypto-assets (Panel B).
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

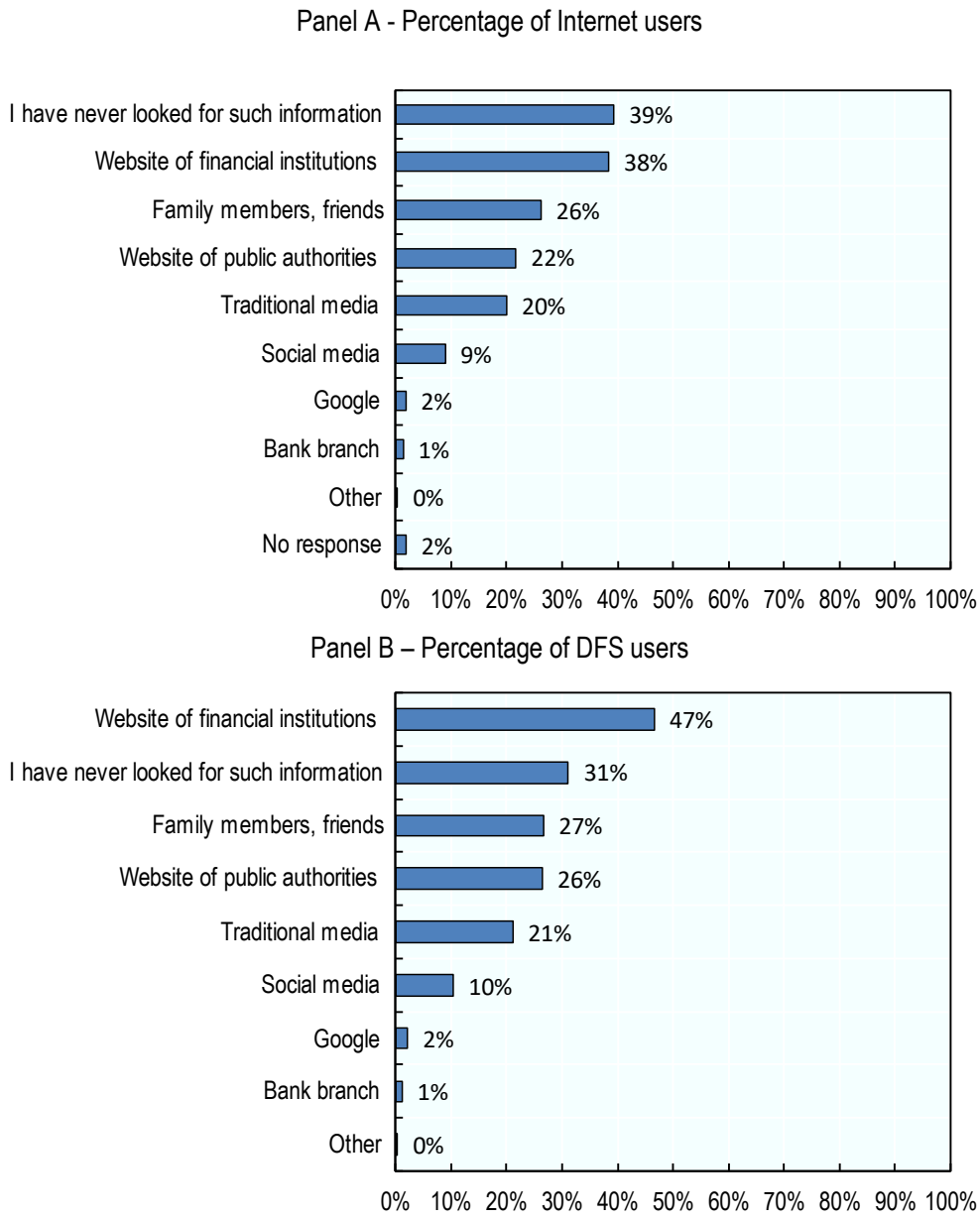
Online financial safety and fraud

Financial and digital literacy are useful tools to increase awareness of financial and digital risks and to prevent and avoid falling victim to online fraud. Many institutions also offer information for citizens and provide support on how to safely use digital tools and online financial services.

Information about the safe use of digital financial services

When looking for information on how to safely use digital financial services, the most cited response among Internet users (39%) is that they have never looked for information on the safe use of digital financial services, suggesting many people may not be aware of the importance of digital financial literacy. 38% of Internet users reported using the website of their financial institution, and 26% said they ask their friends and family (Figure 4-29, Panel A). Among users of home banking, other digital services or online shopping, the most cited source of information is the website of their financial institution (47%) (Figure 4-29, Panel B). Some 31% of users of digital financial services have not looked for information on their safe use.

Figure 4-29. Where to look for information on the safe use of digital financial services

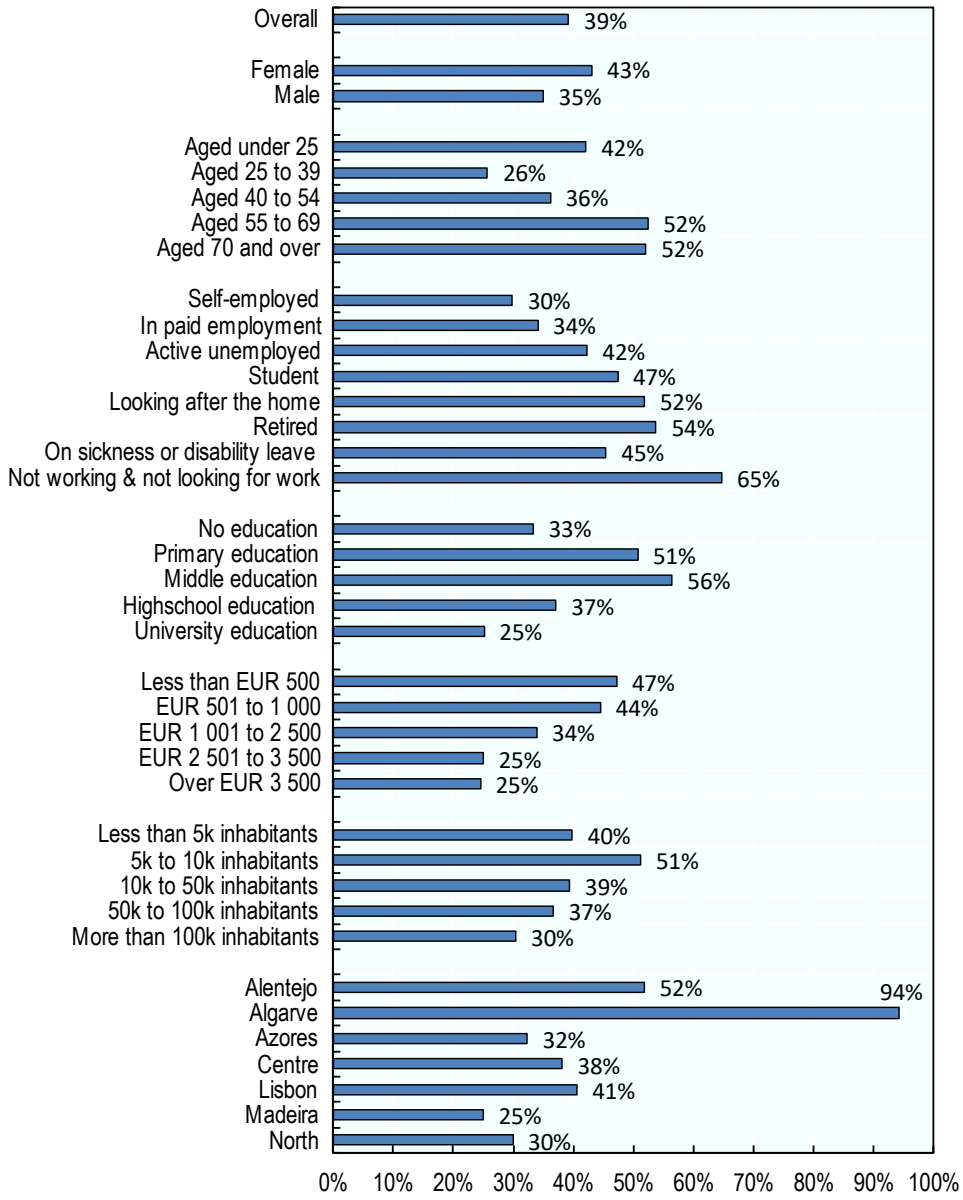


Note: Based on 1 154 observations for Panel A, and 873 observations for Panel B. 39 of the 1 154 respondents who use the Internet reported they looked for information on the safe use of digital financial services in places different from those cited in the survey. Among those, 20 (i.e., 2%) cited they looked on Google, so a new entry was created "Google", and 15 (i.e., 1%) cited they went directly to their bank branch, so a new entry was created "Bank branch". "Other" responses include "Via training courses" (2 observations), and 2 unspecified responses. A similar approach was followed for the sample of 873 DFS users.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Socio-economic characteristics may play a role in whether or not people in Portugal look for information on the safe use of digital financial services. Figure 4-30 shows that women are more likely than men to report not having looked for information (43% versus 35%). Older age groups also more frequently reported not having looked into the safe use of digital financial services (52% of people aged 55 or older). There are also regional differences, as 25% of respondents in the autonomous region of Madeira have not looked for information, compared to 94% of people in Algarve.

Figure 4-30. People who have never looked for information on the safe use of digital financial services

Percentage of Internet users



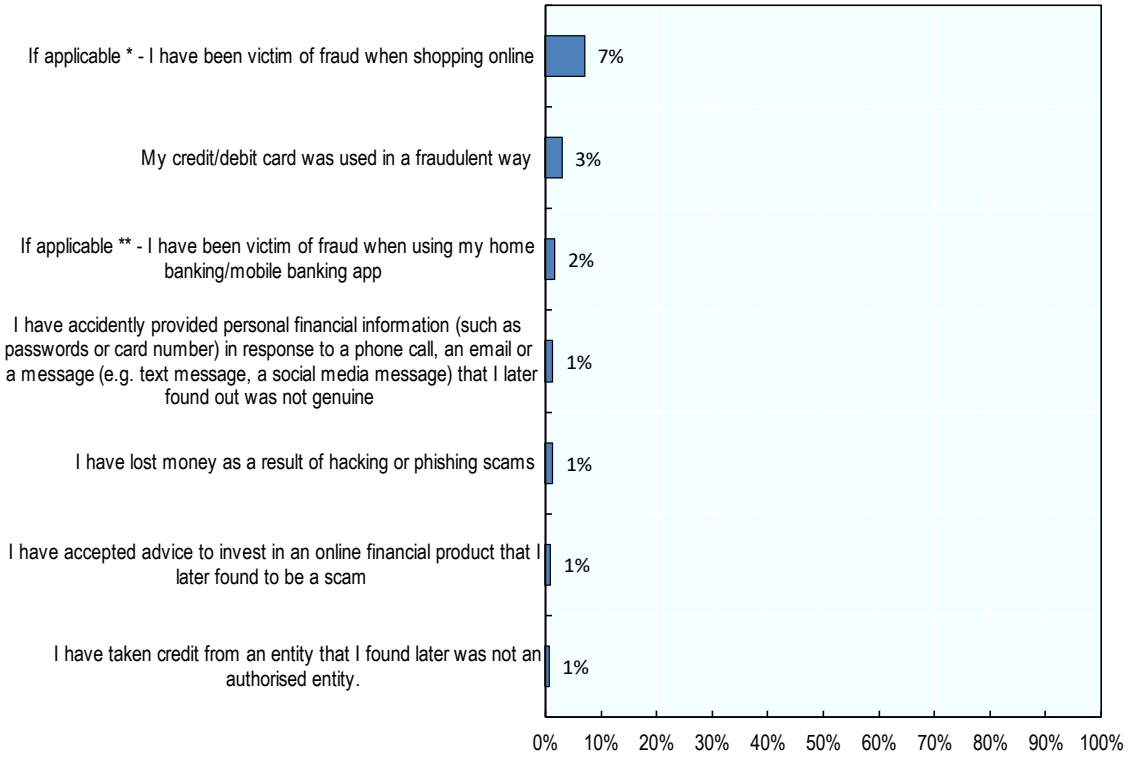
Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Risk of being victim of an online fraud or scam

The Internet exposes its users to the risk of online fraud or scam. Online fraud can take various forms as detailed in Figure 4-31. Online shopping appears to be the activity where most fraud in the last 2 years has occurred (7% of people who shop online), followed by a fraudulent use of a credit or debit card, which may or not be linked to an online usage. While actual fraud rates may be perceived as relatively low, it is worth mentioning that they can entail large losses for consumers.

Figure 4-31. Types of fraud experienced since the start of the COVID-19 pandemic

Percentage of Internet users

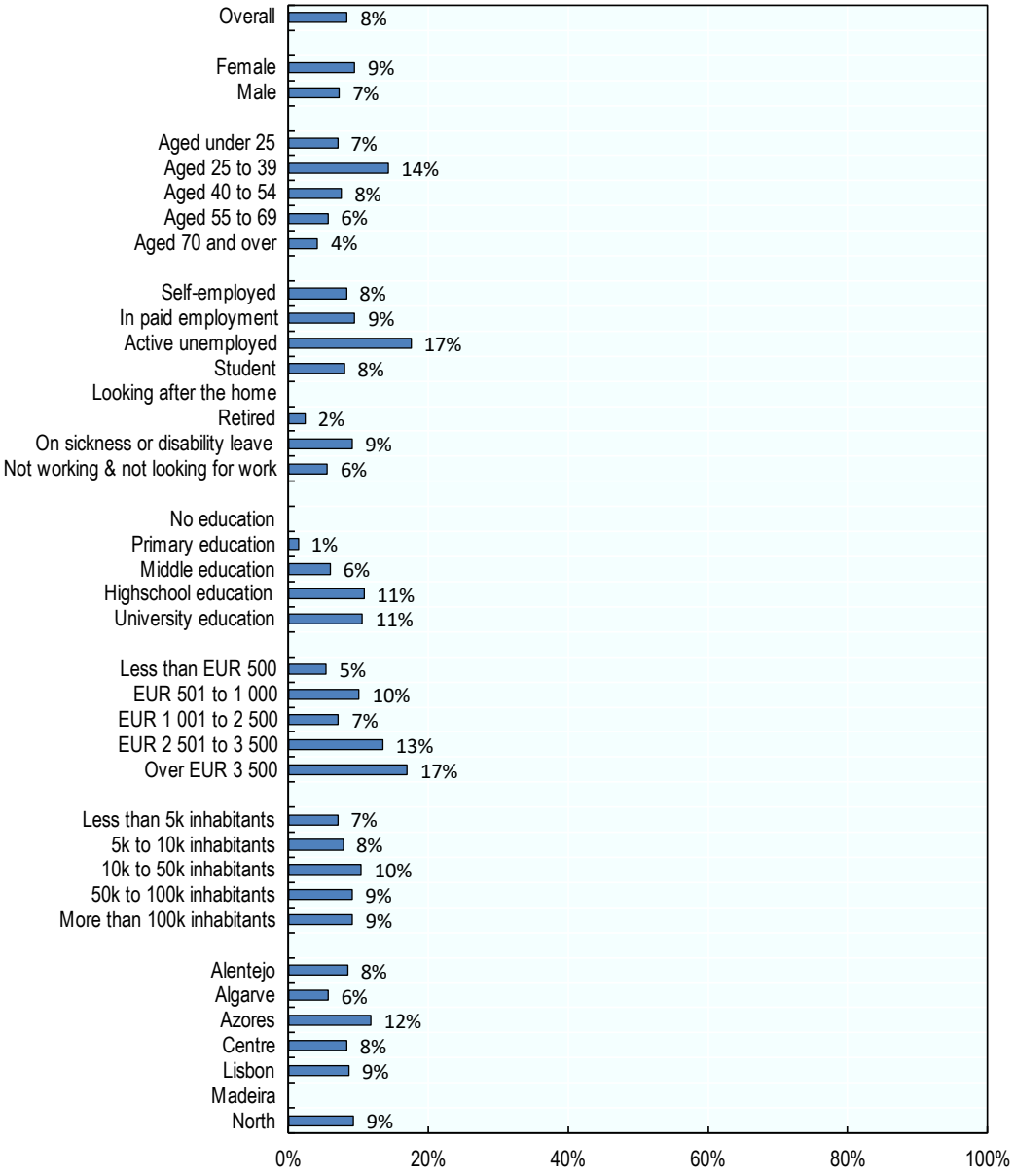


Note: Based on 1 154 observations. Multiple responses were allowed. If applicable * refers to a question asked only to Internet users who shop online. If applicable ** refers to a question asked only to Internet users who use home banking services.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Around 8% of respondents who use the Internet have directly been affected by online fraudsters or scammers (7% of men and 9% of women). Figure 4-32 shows the percentage of victims of online fraud by socio-economic characteristics. Respondents in the 25 to 39 age group are more often victims of fraud (14%) than other age groups. The unemployed are the population group with the highest proportion of victims of online fraud (17%). It is worth noting that the sample of victims of fraud is relatively limited, with 97 observations among 1 154 Internet users, hence results may need to be interpreted with caution.

Figure 4-32. Victims of online fraud, overall and by population sub-groups

Percentage of Internet users



Note: Based on 1 154 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Online fraud reporting

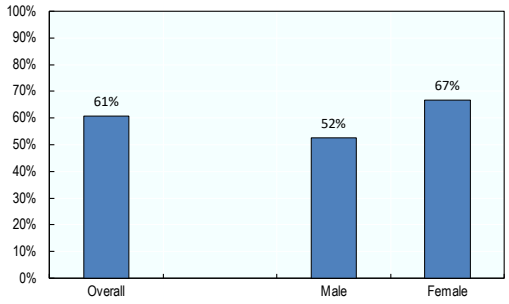
Some 61% of victims of fraud said they report it. Although both genders are affected by online fraud in comparable numbers (7% of men, 9% of women), there is a gender difference in reporting having been victim of a fraud: 52% of men and 67% of women have reported this when it happened to them (Figure 4-33, Panel A). Age also appears to be related to reporting behaviour: only 36% of victims under the age of 25 said they report it, compared to 60% or over in other age groups, up to 75% of those aged

70 or more (Figure 4-33, Panel B). It is worth noting though that percentages should be interpreted with caution given the small number of observations for each category.

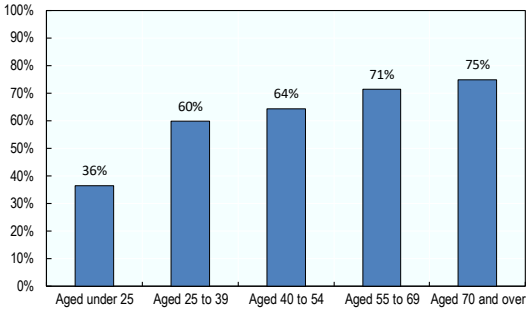
Figure 4-33. Proportion of victims of online fraud who report it, by socio-economic characteristics

Percentage of people having been victim of a fraud

Panel A – Overall and by gender



Panel B – By age group

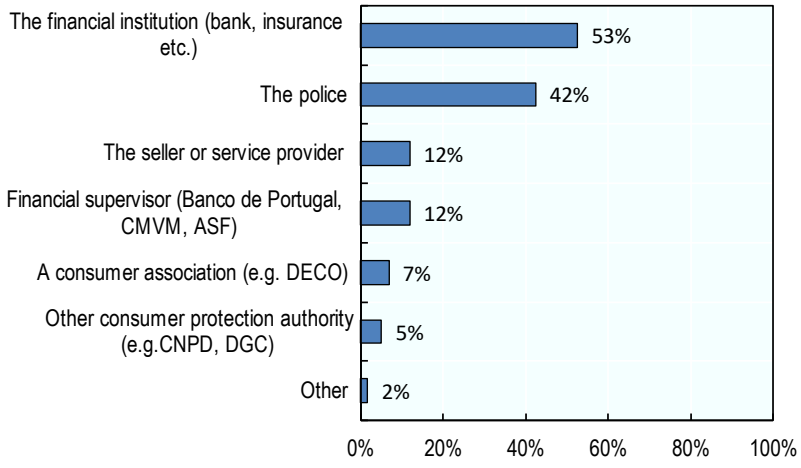


Note: Based on 97 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

When asked who they report a fraud to, respondents mainly indicated the financial institution (53% of reports) and the police (42%) (Figure 4-34). Other entities to which fraud is reported include financial supervisory authorities and companies through which the fraud occurred (12% each), consumer associations or consumer protection authorities (respectively 7% and 5%).

Figure 4-34. Entity to which online fraud is reported

Percentage of Internet users reporting online fraud

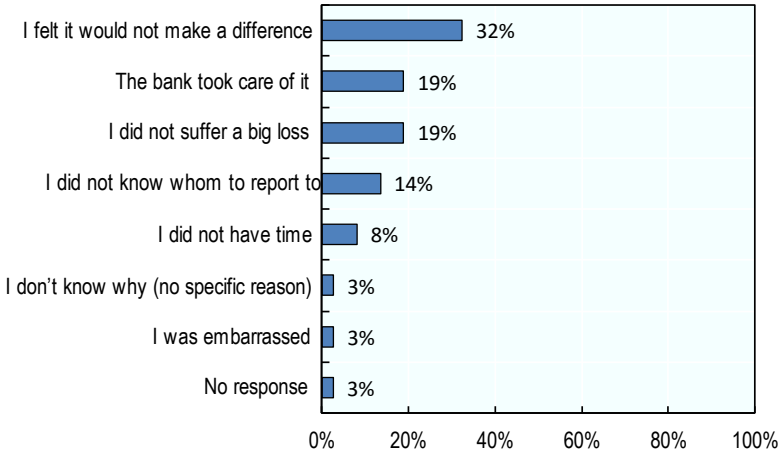


Note: Based on 59 observations. Results do not add up to 100% as respondents could choose more than one answer. 8 out of 59 victims of fraud who reported it, responded that they did so to an entity other than those suggested in the survey. Among them, 7 reported having reported to the seller of goods or service provider, hence a new entry was created "The seller or service provider". The remaining response (shown in "Other") indicated having made a public announcement about the fraud on social media.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

The reasons why victims of online fraud do not always report them to the authorities can vary, as shown in Figure 4-35. The most common reason for not reporting is that victims felt that reporting would not make a difference (32%). Only 3% of those who did not report suffering a fraud did so mainly out of embarrassment, which is encouraging and seems to indicate that there is no widespread feeling of shame attached to having suffered a fraud or online scam.

Figure 4-35. Main reason not to report a fraud

Among victims of online fraud



Note: Based on 37 observations. 7 of the 37 victims of fraud who did not report it stated it was for a reason different from those suggested in the survey: because the bank took care of the matter and reimbursed them directly, hence a new entry was created "The bank took care of it". (NB: One victim of fraud did not respond to the question about having reported the fraud they suffered and is therefore not included in this graph nor in the previous graph).
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Digital financial literacy levels in Portugal

Survey data is used to compute a digital financial literacy score for respondents, assessing the level of understanding of key digital financial concepts, attitudes, and behaviours by the Portuguese population. The score is computed using a variable number of questions depending on each respondent's usage of various digital services, such as online shopping, home banking and other digital financial services, and is rescaled to range between 0 and 100. Some 873 respondents are DFS users, i.e., shop online, and/or use home banking services, and/or other digital financial services and therefore are attributed a digital financial literacy score. The respondents who use the Internet but who do not shop online, use home banking nor any other digital financial services do not have a digital financial literacy score as their behaviours and attitudes towards digital financial services is not assessed through the survey.

On average the digital financial literacy score of respondents is 58. Figure 4-36 shows the average digital financial literacy score in Portugal, overall and by population sub-groups.

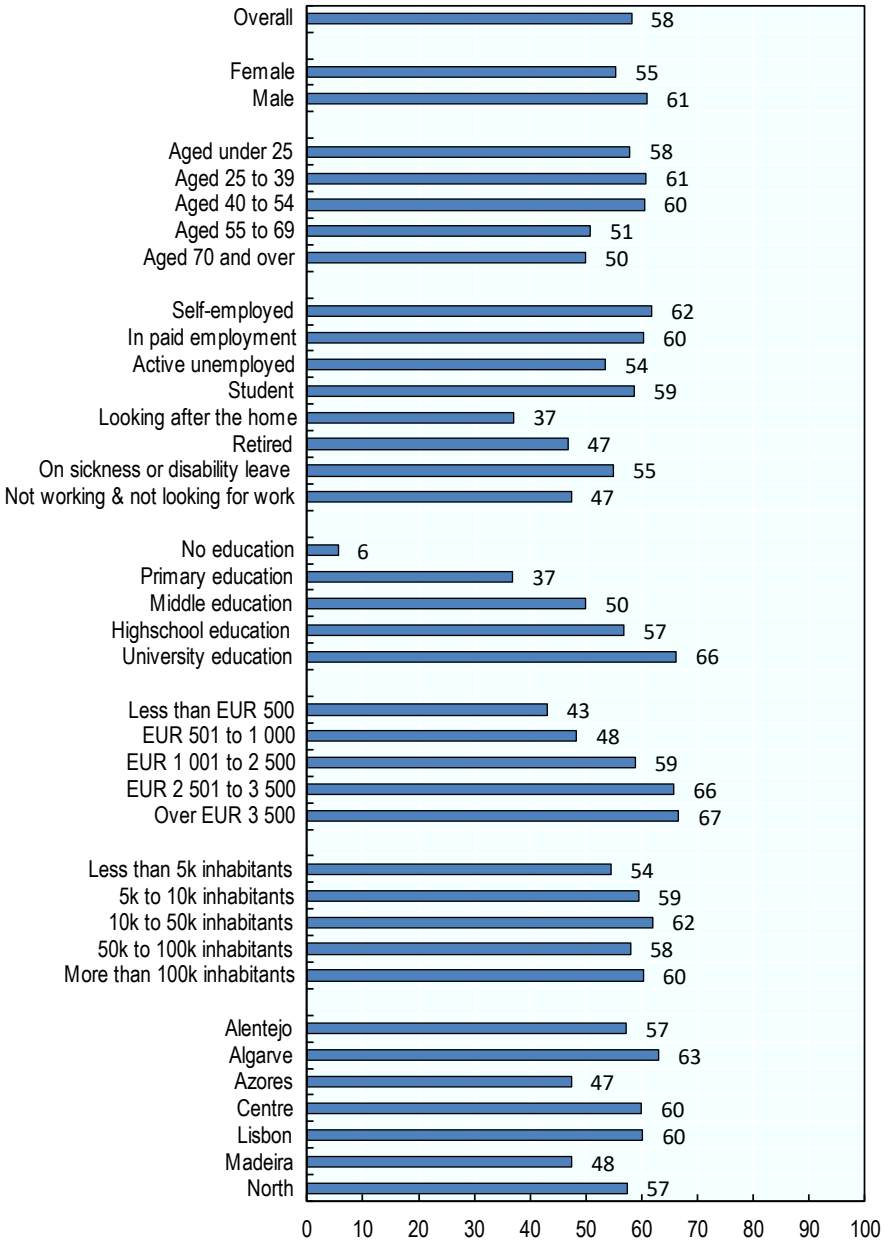
- Men have higher average digital financial literacy scores (61) than women (55).
- People in older age groups have lower digital financial literacy scores on average than those in younger age groups.
- Employed people and students have higher scores than the remaining work status groups.

- Digital financial literacy scores increase with education. The average score increases from 37 among people with primary school education to 66 among those with university education[47].
- Higher monthly household income appears to be linked to higher digital financial literacy scores, from an average score of 43 for respondents in groups with monthly income lower than EUR 500, to 59 for those with a monthly income of EUR 1 001 to EUR 2 500, to around 66 for those in higher income groups.

When looking at variations of the score in a multivariate setting (taking all socio-demographic factors into account at the same time), it appears that digital financial literacy is associated with gender (men have a higher score than women), higher education attainment and higher income levels. Digital financial literacy is also lower for people aged 55 and above than for younger age groups. Digital financial literacy is lower in Madeira than in Lisbon. Results are available in (Annex Table 2).

Figure 4-36. Digital financial literacy score, overall and by population sub-groups

For DFS users, out of a maximum of 100



Note: Based on 873 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

This digital financial literacy score has three main components: digital financial knowledge, digital financial behaviour, and digital financial attitude. Each of these components is evaluated via a score, detailed in the following section.

Digital financial knowledge

Responses to 13 digital financial knowledge questions are used to compute the digital financial knowledge score. The digital financial knowledge score is computed for all respondents who use the Internet, irrespective of whether they use specific financial products of services. The 13 digital financial knowledge questions are listed in Box 4-7.

Box 4-7. Questions used to compute the digital financial knowledge score

Questions asked to all Internet users

Knowledge about shopping online and home banking – 4 questions

- It is possible to cancel an online purchase made in the European Union within two weeks (1 point if "true")
- The price of a good sold online on a given website will remain the same irrespective of the location or device from where I make the purchase or browsing history (1 point if "false")
- Strong customer authentication consists of two-factor authentication to secure online payments (1 point if "true")
- It is possible to make payments and transfers using online/mobile banking (1 point if "true")

Knowledge about digital financial services - 9 questions

- Phishing and pharming are common types of online scams (1 point if "true")
- Personal data (from social media or other sources) can be used to target users with personalised financial offers (1 point if "true")
- A digital contract requires signature of a paper contract to be considered valid (1 point if "false")
- All financial services providers that I can find on the internet are regulated by the financial authorities of my jurisdiction (1 point if "false")
- Not paying back a loan subscribed online affects a borrower's ability to obtain other credit online, but will not affect his/her ability to obtain credit at the branch of a financial provider (1 point if "false")
- Buying a financial product at the bank's branch or online entails the same level of legal protection (1 point if "true")
- Financial institutions can use a wide range of non-financial personal data, including from social media, in decisions about granting credit or insurance (1 point if "true")
- Crypto-assets (such as Bitcoin or Ethereum) have the same legal tender as notes and coins (1 point if "false")
- It is not possible to lose money when investing in crypto- assets (1 point if "false")

Note: Questions are asked to all Internet users, regardless of the type of activities they carry out online
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

On average, Internet users in Portugal have a digital financial knowledge score of 5.8 correct responses out of 13, i.e., 44 out of a maximum of 100. Figure 4-37, Panel A illustrates this score overall and by population sub-groups.

Analysing the digital financial knowledge score by sub-groups shows that:

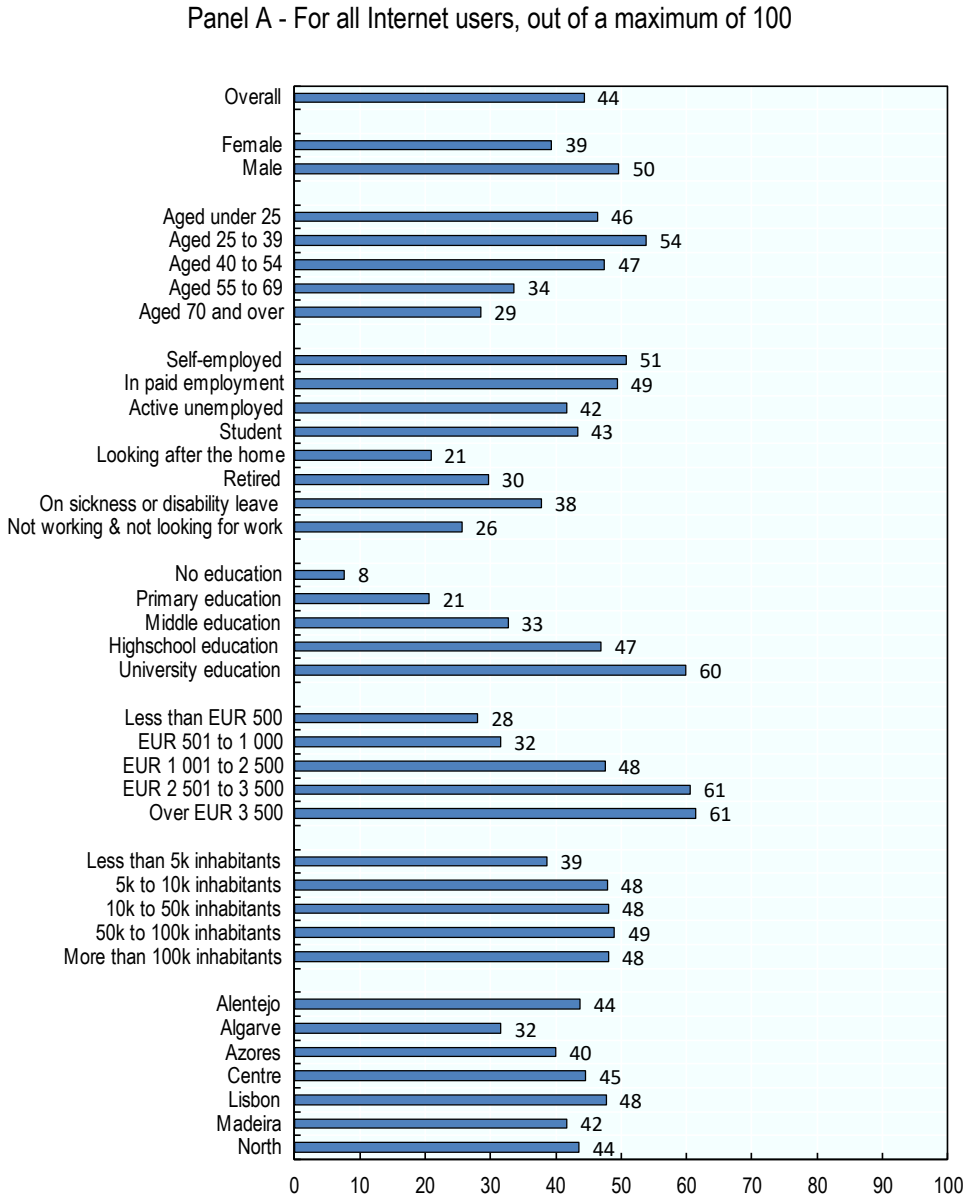
- The digital financial knowledge score differs by gender (39 for women on average, vs 50 for men).

- When looking at the split by age, those in the 25 to 39 age group display the highest average score (54), followed by the slightly older and slightly younger age groups (scores of 47 and 46 respectively). Older respondents have the lowest digital financial knowledge scores: 34 for those aged 55 to 69, and 29 for those aged 70 and over.
- The score is also related to education level (from a score of 8 on average for respondents with no formal education to 60 on average for those with university education).
- Income also appears to play a role in the digital financial knowledge score, with those in higher household monthly income brackets (over EUR 2 500 per month) scoring an average of 61, vs those with lower monthly income displaying much lower levels of digital financial knowledge on average.

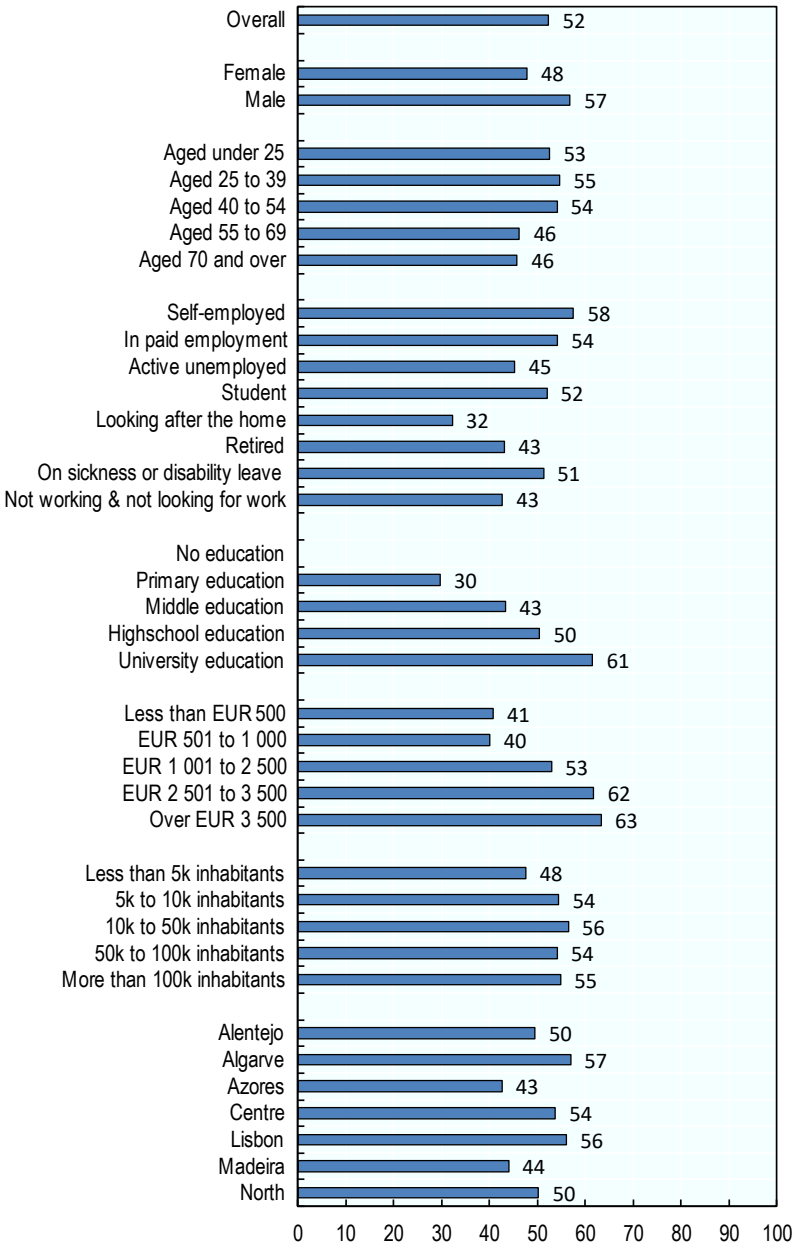
The digital financial knowledge score of DFS users is higher than that of Internet users in general (Figure 4-37, Panel B). On average, these respondents have a score of 52 (compared to 44 for all Internet users) and all sub-groups have higher digital financial knowledge scores.

A multivariate analysis taking into account all socio-demographic factors at the same time shows that men have a higher digital financial knowledge score than women, and that a higher digital financial knowledge score is strongly associated with higher education levels (see Annex Table 2).

Figure 4-37. Digital financial knowledge score, overall and by population sub-groups



Panel B – For DFS users, out of a maximum of 100



Note: Based on 1 154 observations for Panel A, and 873 observations for Panel B.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

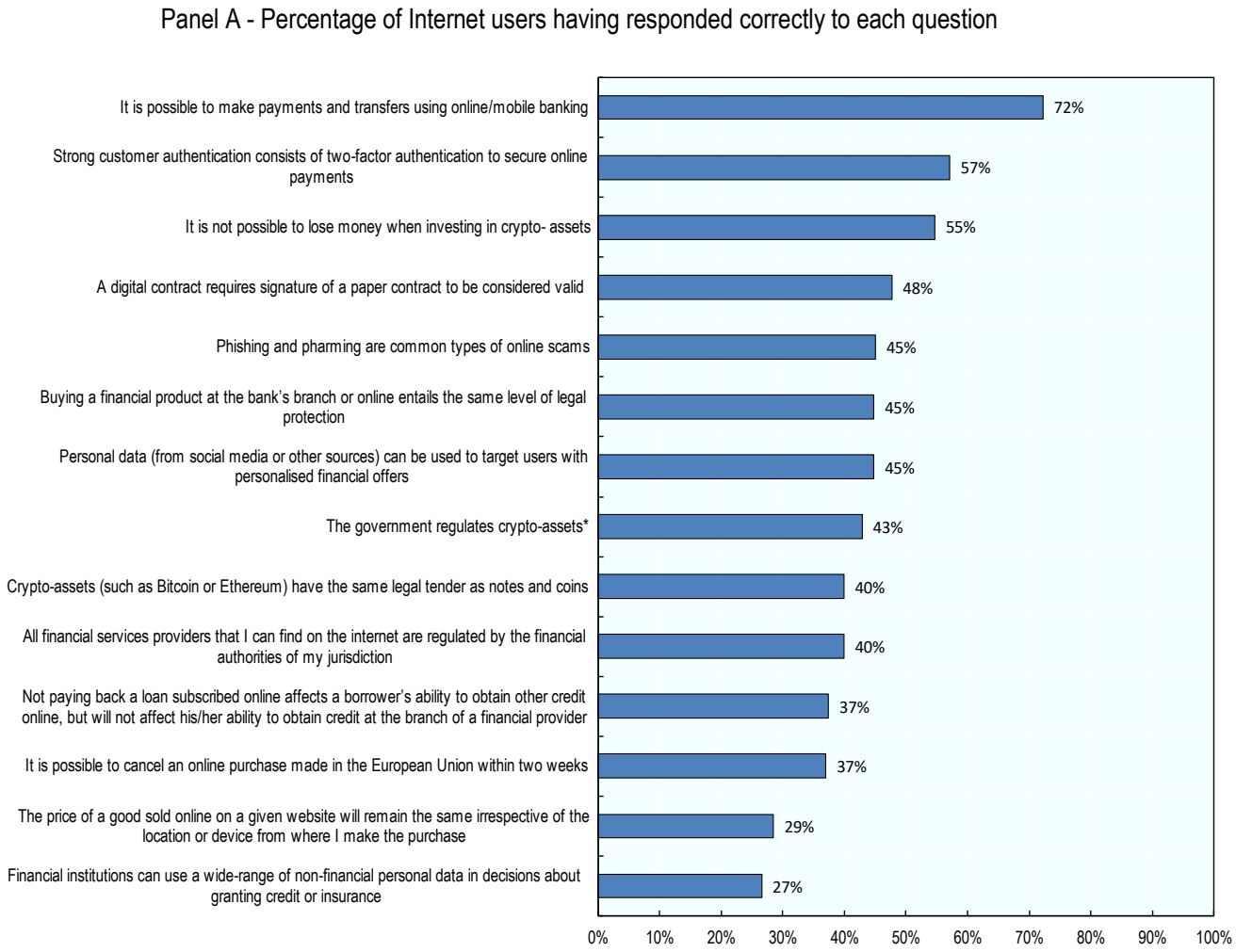
Around 72% of Internet users know that payments and transfers may be done online or via a mobile phone (Figure 4-38, Panel A). However, less than 30% of Internet users know that financial institutions may use personal data such as what is posted on social media to decide whether to offer a loan or an insurance contract to individuals, or that online prices may vary according to the browser or device used to make a purchase. Overall, less than half of Internet users know the correct answer to most financial knowledge questions.

DFS users have higher correct response rates to all digital financial knowledge questions, than those who are not familiar with online shopping or digital financial services (Figure 4-38, Panel B). For example, 69%

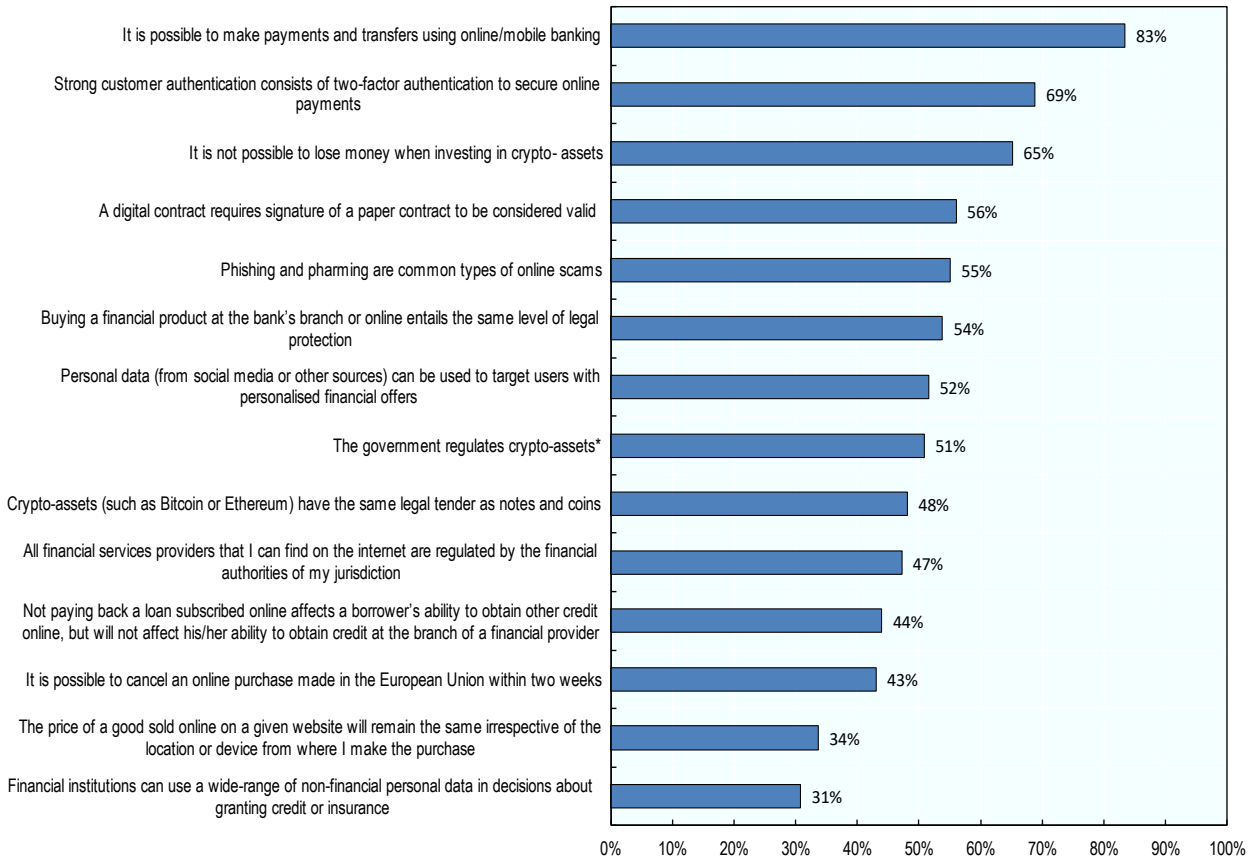
of digital financial or shopping services users know that strong customer authentication consists of two-factor authentication to secure online payments, compared to 57% of Internet users in general.

About 43% of Internet users, and 51% of DFS users answered correctly that the government did not regulate crypto-assets at the time of the survey, during the summer of 2022. It is worth mentioning that 48% of Internet users, and 39% of those with exposure to digital financial services, did not provide a response to this question, which in turn indicates that a majority of those who responded actually provided the correct answer to this question[48].

Figure 4-38. Percentage of correct answers to digital financial knowledge questions



Panel B - Percentage of DFS users having responded correctly to each question



Note: Based on 1 154 observations for Panel A, and 873 observations for Panel B. * Indicates that this digital financial knowledge question may have been perceived as ambiguous by respondents, hence results may need to be interpreted with caution.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Digital financial behaviour

Answers to questions assessing the digital financial behaviour of respondents are used to compute the digital financial behaviour score. Questions used to assess this score are detailed in Box 4-8.

Box 4-8. Questions used to compute the digital financial behaviour score

Questions asked to DFS users, depending on their online activities

Behaviour related to safety when shopping online – 3 questions asked to respondents who shop online

- I check if the website is secure (https..) before buying something online (C.3) (1 point if "Very often" or "Often")
- I check the reliability of the seller before buying something online (C.3) (1 point if "Very often" or "Often")
- After buying something online, I check my account movements to see if the debits correspond to the purchase(s) I made (C.3) (1 point if "Very often" or "Often")

Behaviour related to safety when using home banking – 2 questions asked to respondents who use home banking

- I log off from my account on the home banking (website) or mobile banking application (1 point if "very often" or "Often")
- I change my passwords to access home banking/mobile banking apps (C.9) (1 point if "Very often" or "Often")

Behaviour related to safety when using DFS – 2 questions asked to DFS users

- When buying a financial product or service online, I read information and disclosure documents (1 point if "Completely" or "Very well")
- Before buying a financial product online I check if the provider is regulated and authorised in my country 1 point if "Completely" or "Very well")

Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

The number of questions asked to each respondent depends on the activities performed online. Three questions assess the behaviour of respondents when shopping online and were asked only to those who actually shop online. Two questions assess the behaviour of respondents when using home banking via a website or a mobile application and were asked to users of home banking services only. Two questions are used to assess the behaviour of respondents towards DFS, and were asked to respondents who shop online, use home banking or any other digital financial service. The overall digital financial behaviour score is then rescaled to range between 0 and 100.

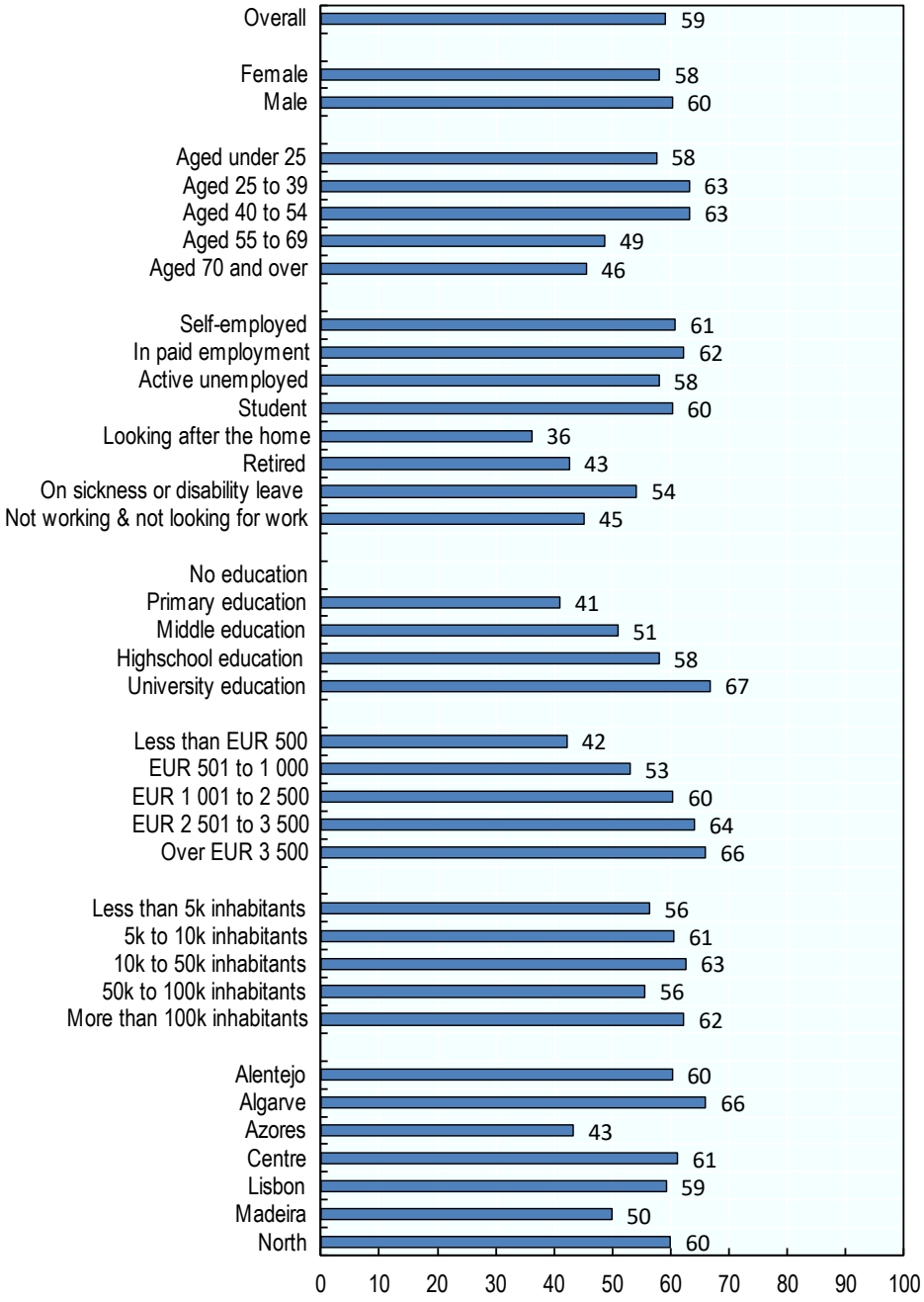
The average digital financial behaviour score in Portugal is 59 out of 100. Socio-economic factors seem to play a role in how respondents score on digital financial behaviour questions, as illustrated in Figure 4-39:

- Men have a higher digital financial behaviour score (60) than women (58).
- Respondents in older age groups score lower on digital financial behaviour (49 on average for those aged 55 to 69, and 46 on average for those aged 70 and over), than those under 25 (58 on average). Respondents between the ages of 25 and 54 have the highest scores for digital financial behaviour (63 on average).
- Students and employed respondents have higher digital financial behaviour scores than those who are inactive.
- The digital financial behaviour score is positively associated with education, from 41 on average for those with primary education only, to 67 on average for those with university education.[49]
- Higher income appears to be linked to higher digital financial behaviour scores, from 42 on average for those with monthly income less than EUR 500 to 66 on average for those with a monthly household income above EUR 3 500.
- Regional differences are observed for digital financial behaviour scores, with respondents living in the autonomous region of Azores and Madeira scoring lower (43 and 50, respectively) than those living in other Portuguese regions (at or above 59 on average).

A multivariate analysis taking into account all socio-demographic factors at the same time shows that men have a higher digital financial behaviour score than women, and that a higher digital financial behaviour score is strongly associated with higher education levels (see Annex Table 2).

Figure 4-39. Digital financial behaviour score, overall and by population sub-groups

For DFS users, out of a maximum of 100



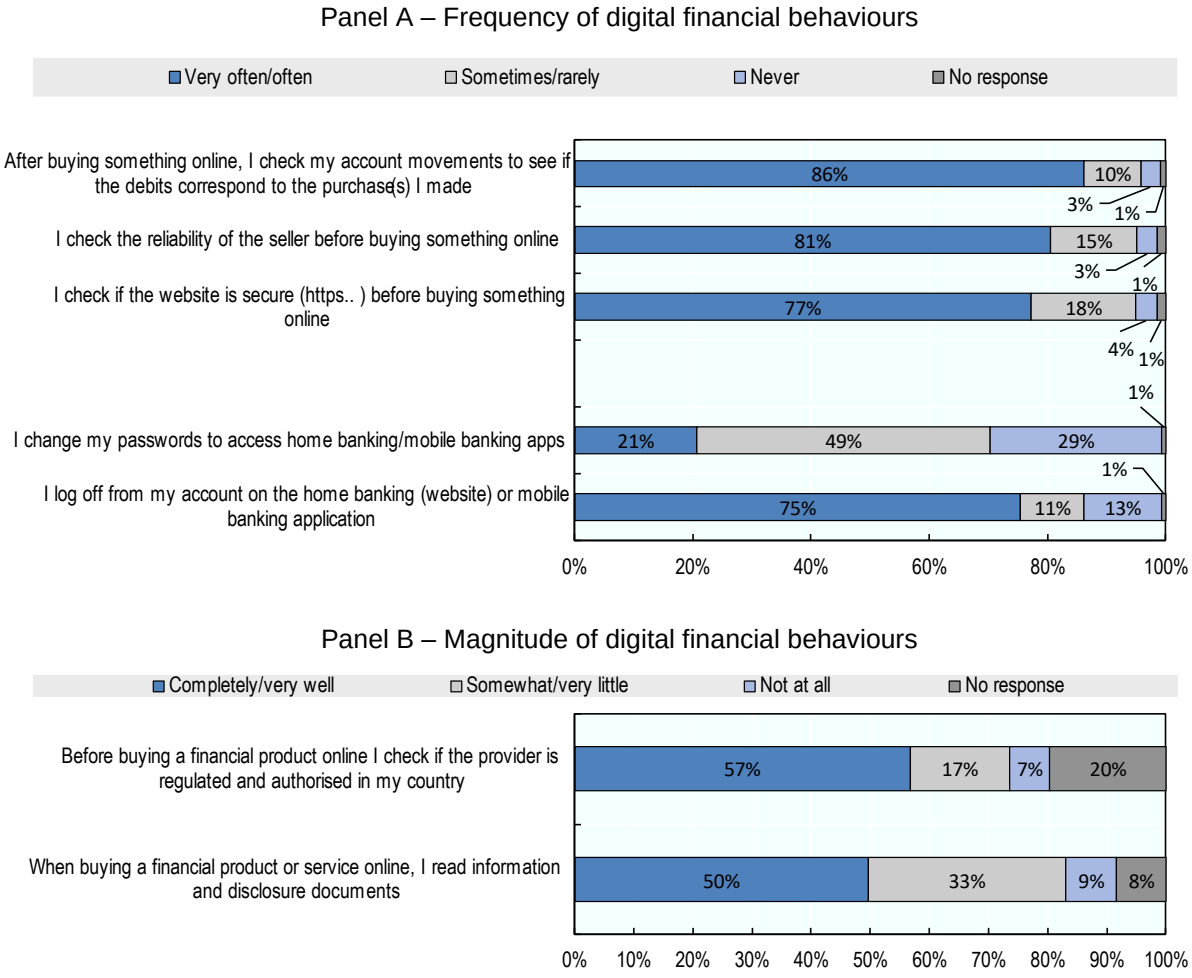
Note: Based on 873 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Figure 4-40 illustrates the percentage of correct responses to each question asked to assess the digital financial behaviour score of respondents. Overall, people who shop online display relatively high levels of positive behaviours (from 77% to 86% on average for the three behaviours assessed). Those who use home banking have very different levels of positive behaviours when using home banking services, as only

21% of home banking users said they change their home banking passwords regularly, while on average 75% of users said they generally log off their home banking service after using it. Before buying a financial product online, some 57% of DFS users said they check that the provider is regulated, and around 50% reported reading information and disclosure documents.

Figure 4-40. Answers to digital financial behaviour questions

Percentage of different responses to each question (asked only if applicable)



Note: Based on 688 observations for the three questions related to online shopping (Panel A), 752 observations for the two questions related to home banking (Panel A), and 873 observations for the two questions in Panel B. The three questions related to online shopping were asked to respondents who shop online, those related to home banking were asked to respondents who use home banking services, and the two question on digital financial services were asked to DFS users.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

The survey assessed three other behaviours that are relevant when using DFS or buying online, such as where to get information on scams, as shown in Table 4-20. The responses to questions on these behaviours do not form part of the digital financial behaviour score. Results show that people who use DFS are rather confident they know how to contact providers of digital financial services (80% at least to some extent), or which bodies they can deposit a complaint about a financial product sold online (76% at least to some extent). However, 19% said they do not know at all where to get information about frequent

financial scams and online frauds, suggesting communication may be needed to ensure this information can be found by users of DFS.

Table 4-20. Other behaviours towards digital financial services

Percentage of DFS users

	Completely/Very well	Somewhat/A little	Not at all	No response
I know how to contact providers of financial products or services available online	51%	29%	9%	11%
I know the relevant bodies where a complaint about financial products and services sold online can be deposited	44%	32%	13%	11%
I know where to get information about frequent financial online scams and fraud	34%	37%	19%	10%

Note: Based on 873 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Digital financial attitudes

The digital financial attitude score allows to assess the extent to which DFS users have adopted attitudes that are deemed digitally and financially savvy. It is computed based on the responses to three questions, and then rescaled to range between 0 and 100. Questions used to compute the digital financial attitude score are listed in Box 4-9.

Box 4-9. Questions used to compute the digital financial attitude score

Questions asked to DFS users

- I think it is important to read the terms and conditions when buying something online (1 point if "Strongly agree" or "Agree")
- I think that it is safe to shop online using public Wi-Fi networks (e.g., in cafés, airports, shopping malls) (1 point of "Strongly disagree" or "Disagree")
- I think it is important to pay attention to the security of a website before making a transaction online (e.g., https sites, safety logo or certificate) (1 point if "Strongly agree" or "Agree")

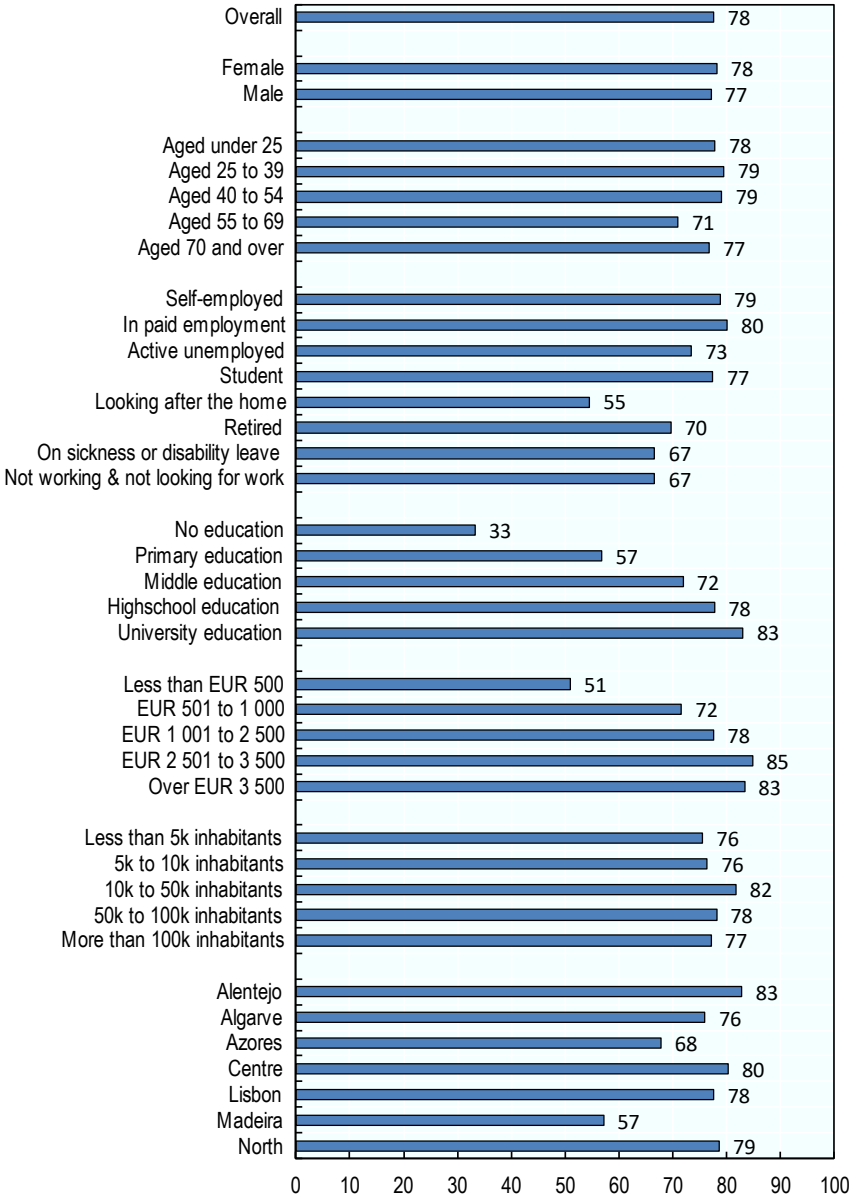
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Overall, DFS users of in Portugal have a digital financial attitude score of 78 out of 100 (Figure 4-41). The digital financial attitude score does not seem related to gender (77 for men, vs 78 for women) or by age (from 71 on average for respondents aged 55 to 69 to 79 for those aged between 25 and 54). Income and education appear to play a role in how well people score on digital financial attitudes, with people in higher monthly income groups (resp. education) scoring better on average than those in lower income groups (resp. education).

A multivariate analysis taking into account all socio-demographic factors at the same time shows that the digital financial attitudes score is strongly associated with education and income levels, but not with gender (see Annex Table 2). Taking into account all other factors, being inactive is also associated with lower digital financial attitudes scores, while other occupational statuses show no significant association.

Figure 4-41. Digital financial attitude score, overall and by population sub-groups

For DFS users, out of a maximum of 100



Note: Based on 873 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Figure 4-42 illustrates the responses to questions forming the digital financial attitude score, as well as to other questions assessing the attitudes of respondents towards digital financial products and services. Some 86% of DFS users know that it is important to read the terms and conditions when buying something online. Similarly, 87% of respondents know it is important to pay attention to the security of a website before making a financial transaction online. Conversely, only 60% of respondents are aware that it is unsafe to shop online when using public Wi-Fi networks, indicating more may need to be done to ensure users of DFS, including people who shop online, have the adequate attitude towards the safety of public Wi-Fi networks.

Most DFS users are happy about the digitalisation of banking activities (77%) and find that having accounts that can be digitally managed helps them to manage their personal finances (80%).

DFS users may display different levels of care and attention when performing various activities through traditional channels, compared to when performing them online. For example, some 45% of DFS users said they consider that they are more likely to read the terms and conditions of a contract if they have it on paper than online. Some 38% of users who have taken out consumer credit online or subscribed a credit card online also stated that an online process to take out credit can lead them to be less careful than if taking out credit at a branch.

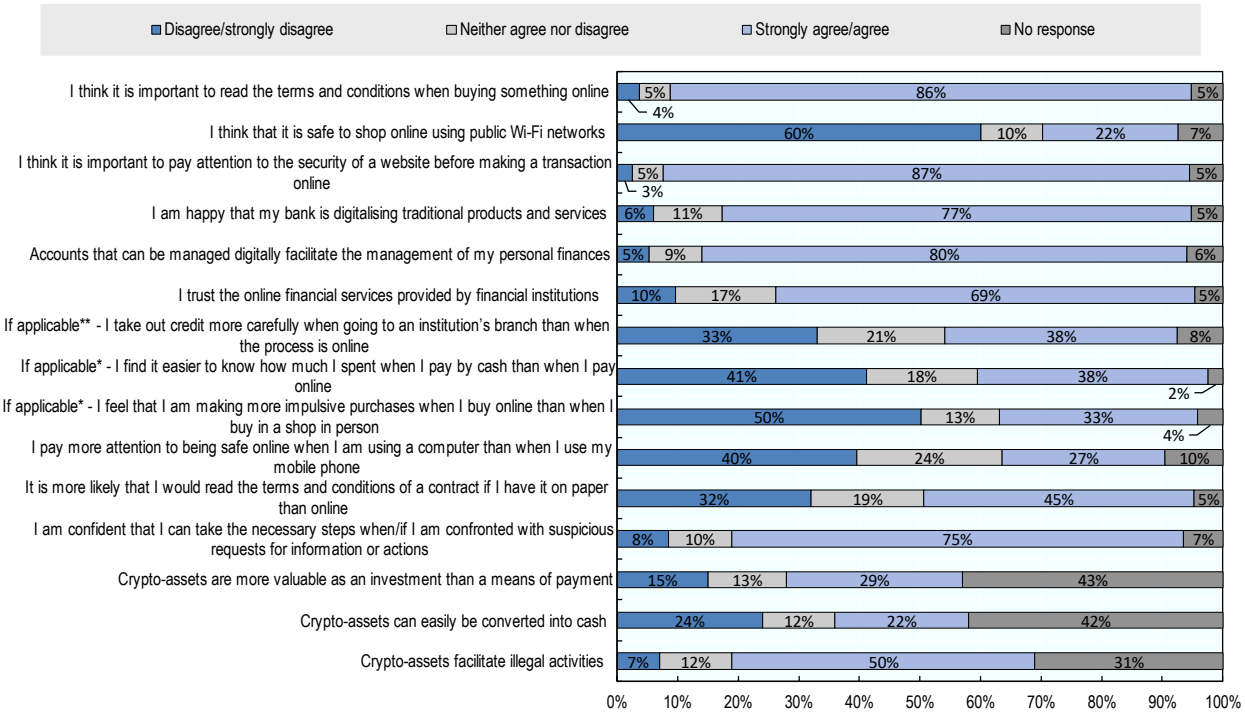
Attitudes towards spending when online compared to in a traditional setting show mixed evidence. About the same proportion of online shoppers (38% and 41% respectively) agreed and disagreed that they find it easier to know how much they spend when paying by cash than when paying online, and a majority of online shoppers (50%) said they do not make more impulsive purchases online than when shopping in person.

Attitudes towards online safety may also differ depending on the devices used to shop online and/or use home banking and/or other DFS. Some 27% of DFS users said they pay more attention to being safe online when using a computer than when using their mobile phone.

DFS users generally are comfortable using digital financial services. A majority (69%) said they trust their financial institutions' online financial services, and some 75% were confident they can respond adequately (such as by blocking their credit card or informing authorities) if confronted with suspicious requests for information or actions from DFS providers.

Figure 4-42. Answers to digital financial attitudes questions

Percentage of DFS users



Note: Based on 873 observations. "If applicable*" refers to questions that are only to respondents who shop online (688 observations). "If applicable**" refers to a question that is asked only to respondents who have already taken out consumer credit online or subscribed a credit card completely online (133 observations).
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Digital financial literacy, online safety and use of digital tools or financial services

This section looks at some of the relationships between variables studied in the consumer survey, in order to identify possible trends and associations that can inform the provision of financial education in Portugal.

Relationship between engaging in digital activities, online safety, and digital financial literacy

The survey made it possible to look at the relationship between engaging in financial and non-financial digital activities, and performance in terms of online safety and digital financial literacy.

On average among survey participants, the use of digital tools (as defined by the digital use score) is positively correlated with online safety and digital financial literacy.

Table 4-21 displays the correlation coefficients between the three scores. It shows that, on average, those who use digital tools and carry out (non-financial) digital activities to a larger extent also tend to score higher in terms of online safety and digital financial literacy.

Figure 4-43 also shows that people who engage in various digital financial activities (such as shopping online, using home banking, or using other DFS) tend to score higher in terms of online safety and digital

financial literacy than those who do not engage in such activities. The same figure also shows that consumers who have previously bought or sold crypto-assets, or who have been victims of online fraud, also display higher online safety and digital financial literacy scores than those who have not engaged in such behaviours.

Overall, the results of

Table 4-21 and Figure 4-43 suggest that many people may be learning by doing and that many people may have appropriate skills when they need them the most.

Table 4-21. Relationship between (non-financial) digital use, online safety, and digital financial literacy

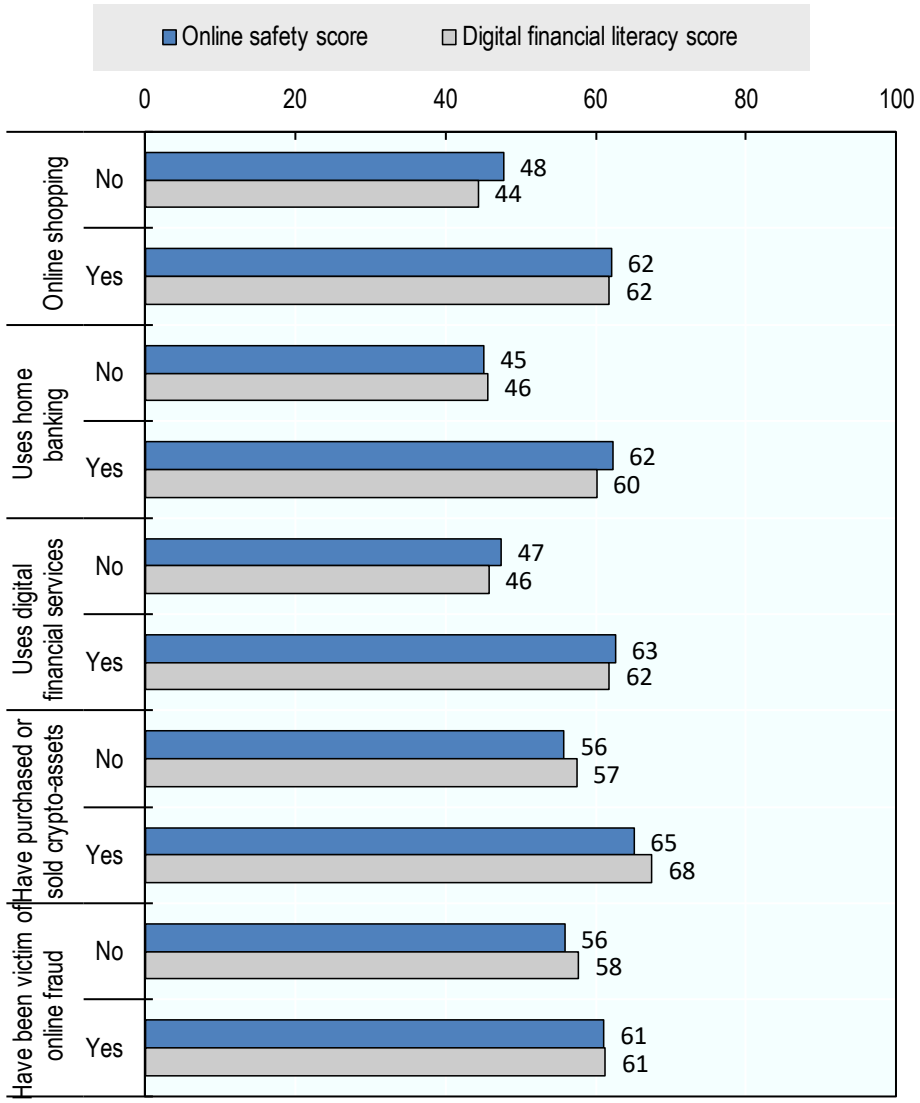
Correlation coefficients can range between -100% and 100%

	Digital use score	Online safety score	Digital financial literacy score
Digital use score	100%		
Online safety score	48%	100%	
Digital financial literacy score	49%	53%	100%

Note: Based on 873 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Figure 4-43. Relationship between engaging in digital activities, online safety, and digital financial literacy

Out of a maximum of 100



Note: Based on 873 observations.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

At the same time, the results of the survey also show that many people who engage in financial and non-financial digital activities may not have sufficient digital financial literacy or may not act safely online and may therefore be defined as being "at risk" of inappropriate choices and behaviours.

Table 4-22 shows the percentage of people who can be defined "at risk", meaning that they have low digital financial literacy or may not act safely online among those who engage in variety of financial and non-financial digital activities, such as using non-financial digital tools, shopping online, using home banking services, holding other types of DFS, or buying/selling crypto-assets. A low score on online safety or digital financial literacy is defined as scoring below the median. Overall, sizeable percentages of respondents

who engage in any of these behaviours may not have adequate knowledge and skills to do so accurately and safely. For instance, around 40% of DFS users have low digital financial literacy. Similarly, about one in four of those who have recently bought or sold crypto-assets have low digital financial literacy (keeping in mind the limited number of observations in the sample who have used crypto assets). The table also shows that many people who have been victims of online fraud have limited skills to protect themselves from future attempts.

Table 4-22. Engaging in digital activities with limited knowledge and skills

Percentage of Internet users who engage in selected financial and non-financial digital activities who score low on online safety or digital financial literacy

	% Who have a low Online safety score	% Who have a low Digital financial literacy score
Among those with a high Digital use score	27%	33%
Among those who shop online	35%	39%
Among those who use home banking	35%	43%
Among those who use digital financial services	33%	39%
Among those who have purchased or sold crypto-assets	29%	24%
Among those who have been victims of online fraud	33%	41%

Note: Based on 873 observations. A low score on online safety or digital financial literacy is defined as scoring below the median of the respective score.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population.

A multivariate analysis looked at the socio-demographic characteristics of the people “at risk”, that is engaging in certain behaviours but having low skills (see Annex Table.3 for more details). For instance:

- People below 25 years old are more likely to have low online safety when shopping online, using DFS or using digital tools than people in middle age (25 to 54 years old).
- People with high income levels (above EUR 3 500) are less likely than low-income people to have low online safety when shopping online, using DFS or using digital tools.
- Women are more likely than men to have low digital financial literacy when shopping online, using DFS or using digital tools.
- University educated people are less likely than people with primary education or no education to have low digital financial literacy when shopping online, using DFS or using digital tools.
- Residents of the Centre region are less likely than people living in the Lisbon region to have low online safety and low digital financial literacy when engaging in a variety of digital financial activities. Conversely people in Madeira are more likely than people living in the Lisbon region to have low online safety and low digital financial literacy when engaging in a variety of digital financial activities.

5 Analysis of needs and gaps in improving digital financial literacy in Portugal

Drawing on the analysis conducted in the previous chapters, the first section of this chapter highlights the main needs of the Portuguese population when using digital tools and digital financial services, based on the results of the OECD 2022 survey to measure the digital financial literacy of the Portuguese population, on the analysis of the results of the stocktaking survey, and on input from the stakeholder workshop. Then, by comparing those needs to the extent of actual financial education provision in Portugal (second section), the third section of the chapter highlights the main gaps in digital financial education.

Needs for digital financial literacy

Summary of findings from the OECD 2022 survey to measure the digital financial literacy across the overall population

Digital (financial) inclusion

With regard to digital inclusion, some 76% of respondents reported using the Internet, with the use of smartphones more prevalent than computers. The average digital use score of the surveyed Internet users is 53 (out of 100), which means that on average Portuguese people use digital channels to some extent to perform daily activities. There are differences in the frequency of activities carried out online: although almost all Internet users said they search for information online or send/receive e-mails, around 40% of them has never shopped online and more than one third has never undertaken administrative tasks online. Several reasons may explain the low digital inclusion among the 24% of respondents who reported not using the Internet: according to the survey, half of those who do not use the Internet said that it is too complicated to use, while 29% reported that they do not need it.

With regard to digital financial inclusion, 45% of respondents to the survey reported shopping online (this percentage raises to 60% for those using the Internet), 50% of respondents reported using home banking services (65% of Internet users) and 44% of respondents (58% of Internet users) reported using other digital financial services such as MBWay, digital services to transfer money or e-wallet to make payments among others. All in all, 58% of respondents (76% of Internet users) said they either shop online, use home banking services or other digital financial services (DFS users).

Overall, the main reason for not undertaking certain digital financial activities, namely for not shopping online or for not using home banking is a preference for personal contact. Almost half of Internet users who do not shop online said they prefer to shop in person in order to see and touch products before buying. Among the 30% of Internet users who have a bank account but do not use home banking services, the

main reasons for not using such services are the preference for using a physical ATM and the preference for personal contact at the branch.

The complexity of using technology is also mentioned as an important reason for not using certain digital financial services. Some 13% of people who do not shop online reported having difficulty in dealing with technology as the main reason for not shopping online, and 17% of non-users of home banking services mentioned this reason for not doing so.

Limited trust/confidence in digital technologies and digital financial services also explain the limited digital (financial) inclusion in Portugal. Indeed, some 16% of those who do not shop online do not trust online shops, and 15% of those who do not use home banking mention safety as the main reason for not doing so.

Finally, while certain digital financial services and tools - such as the MBWay payment app - are well known by the Portuguese population, there is limited awareness of many digital financial services and tools (such as online trading platforms, crowdfunding or payment initiation services). Furthermore, most respondents have either heard of but never used, or never heard of most digital financial products and tools covered in the survey. For example, only 7% of Internet users with a bank account said they use digital budgeting tools, although 45% said they know this service exists.

Application of basic safety practices when going online

Online safety can be understood as a range of skills to be applied when being online in order to protect one's information, devices and finances. As shown in Chapter 4, the average Internet user in Portugal engages in safe behaviours when going online only to a limited extent, which is reflected in an online safety score of 56 (out of 100). The average online safety score hides different behaviours depending on the safety procedure.

The Portuguese population appears to have adopted many safety procedures when using the Internet: for example, 91% of respondents said they never share their passwords with friends, 83% said they never provide personal information over email or during phone calls, and 76% said they never click on links or open attachments coming from unexpected emails or messages. At the same time, the survey highlighted that specific safety procedures are followed to a limited extent in certain domains. For instance, the majority of the population does not change passwords regularly and significant parts of the population do not use different passwords for different accounts, while 60% reported creating strong passwords in terms of length and use of different types of characters. This suggests that many people may see online safety as a one-off requirement rather than a regular behaviour.

In addition, the use of safety measures for specific tools, such as mobile applications, appears to be not so widespread. For example, only 42% of respondents reported that they often verify the access permissions they are granting when installing a new mobile application, and 53% said they verify that such application comes from a trustworthy source.

Skills to protect personal data when using digital tools

Overall, personal data protection measures are well implemented by the Portuguese population when going online, but they may be increased in some specific areas. For instance, many people do not give importance to reading and understanding privacy policy statements before providing personal data. Indeed, only 31% said they carefully read them. Also, some 54% of Internet users said they never ask website administrators or providers to delete their personal data when they no longer plan to use a website.

In addition, the number of people in Portugal who behave in a cautious way when using social networks may be improved, especially regarding to the protection of personal data. Some 13% of social media users

said they do not limit at all the access to their profile or to the content they share on social media, and 47% admitted sharing some personal data such as their date of birth, address or phone number on social media.

Digital financial knowledge of the Portuguese population

The survey looked at three components of digital financial literacy, including digital financial knowledge, attitudes and behaviours. In terms of digital financial knowledge, on average, Internet users in Portugal have a score of 44 (out of 100). This score rises to 52 for DFS users. Overall, less than half of Internet users know the correct answer to most financial knowledge questions. More particularly, the Portuguese population using the Internet shows limited digital financial knowledge on the following aspects:

- There is limited awareness about the fact that, generally, the same requirements or rules apply regardless of whether an activity is carried out online or in other ways (for example, with regard to the validity of contracts signed on paper or online, levels of legal protection for digital and in person financial transactions, or the fact that not paying back a loan taken online has also consequences in the offline world).
- With regard to online shopping, there is limited knowledge of consumer rights (such as rights and procedures to cancel online purchases within 14 days in the EU). There is also limited awareness about certain pricing or marketing practices applied by online providers (such as the use of location or browsing history by providers to price products and services online). Finally, there is relatively low awareness about the features offered by financial institutions to secure online payments.
- With regard to other types of digital financial services:
    - There is limited awareness about the use of non-financial personal data by financial institutions (for example in the context of granting credit or insurance).
    - There is limited awareness that some online financial services providers may not be regulated by financial authorities in Portugal.
    - There is limited knowledge on crypto assets, especially in terms of risks, whether they are legal tender and on regulatory aspects. For example, only 40% of Internet users understood that crypto-currencies do not have the same legal tender as notes and coins, only 43% knew that the government does not regulate crypto-assets, and only 55% understood that it is possible to lose money when investing in crypto-assets. A large proportion of respondents reported not knowing the response to questions about crypto-currencies. Users of crypto-assets performed much better on knowledge questions, with correct response rates above 70% for all three knowledge questions.

Engagement in safe digital financial behaviours among the Portuguese population

The average digital financial behaviour score in Portugal is 59 (out of 100). Again, the Portuguese population appears to engage in safe behaviours in some domains but not in others.

Overall, people who shop online show relatively high proportions of safe digital financial behaviours. For example, the majority of online shoppers in Portugal said they check their account movements to verify if the debits correspond to the purchases or check both the reliability of the seller and the security of the website before buying.

However, people using home banking show some risky behaviours. More specifically, only 21% of home banking users said they change their home banking passwords regularly and 29% said they never do it. This is consistent with the finding mentioned above that many people do not change their passwords regularly when navigating online.

With regard to other safety behaviours, only half of DFS users claimed to read information and disclosure documents when buying a digital financial product.

Other interesting findings related to behaviours that are relevant when using digital financial services or buying online (while not forming part of the digital financial behaviour score) show that about one fifth of DFS users do not know at all where to get information about frequent financial scams and online frauds. Furthermore, around one third of DFS users has never looked for information on the safe use of digital financial services.

Digital financial attitudes among the Portuguese population

The digital financial attitude score allows to assess the extent to which users of digital financial services have adopted attitudes that are deemed digitally and financially savvy. Overall, DFS users in Portugal have a digital financial attitude score of 78 (out of 100). This means that Portuguese DFS users consider important, for example, to read terms and conditions when buying something online or to pay specific attention to the security of a website before making a transaction online. However, other attitudes may deserve further attention: for instance, only 60% of respondents said they are aware that it is unsafe to shop online when using public Wi-Fi networks, and 22% thought it is totally safe.

Other attitudes towards DFS - not taken into account in the scoring - suggest that most DFS users appreciate the digitalisation of banking activities and find that this helps them to manage their personal finances. However, the survey revealed some differences in attitudes depending on the mode of accessing tools and services:

- DFS users take extra care and pay more attention when performing various activities through traditional channels, compared to when performing them online. For example, some 45% of DFS users considered that they are more likely to read the terms and conditions of a contract if they have it on paper than online.
- Some parts of the population tend to display less cautious or more impulsive attitudes when being online than when transacting in person. For instance, one third of online shoppers felt they make more impulsive purchases when buying online rather than in a shop.
- Attitudes towards online safety also differ depending on the devices used. For example, some 27% of DFS users said they pay more attention to being safe online when using a computer than when using their mobile phone.

Summary of key findings from the OECD 2022 survey to measure the digital financial literacy across specific groups

Young people (16 to 24 years old)

Young people make extensive use of the Internet (100% of respondents under the age of 25 use the Internet) and digital tools, which means that almost all young people under 25 can be considered potential DFS users. This population also engages in digital financial activities such as online shopping (27% of young respondents said they shop online often or very often), using home banking (only 14% said they do not use home banking services offered with their bank account at all) as well as making digital payments with wallets or transferring money using digital services such as MBWay. Some 6% of people aged 16-24 reported trading crypto-assets.

Although this population shows great digital skills in certain areas assessed by the survey (for example regarding certain online safety procedures such as creating strong passwords or using and updating anti-virus and anti-spyware software on laptop/computer), they face specific vulnerabilities when using DFS.

This population can be considered “at risk” as, among those who have a high use of digital tools, or shop online, or use digital financial services, people below 25 are more likely to have a low online safety score in comparison to people in middle age (25 to 54). Specific vulnerabilities faced by young people are listed below:

- Young people perform worse than people in middle age (25 to 54) in adopting certain safe digital financial behaviours. For example, the young generation applies safety procedures in a limited way, notably when using home banking (logging off and regular change of password).
- Young people perform worse than people in middle age (25 to 54) in applying certain data protection measures, especially when using social media. For example, younger users of social media share personal data (such as their date of birth, phone number, or address) more frequently than users in older age groups: 59% of those aged under 25 said they do so, compared to 45% of those aged between 25 and 39 or 48% of those aged 40 to 54.
- While this age group shows exposure to online frauds in line with the overall population, young people are less likely to report when being victim of an online financial fraud than other age groups: only 36% of victims under the age of 25 said they report it, compared to over 60% in all other age groups.
- Overall, youth have a digital financial knowledge score (53) in line with the average population (52 out of 100). However, this is the lowest score they have when compared with the attitude and behaviour score.

Older adults (55 years old and over)

The population aged 55 and over – and especially the sub-group aged 70 and over - faces multiple challenges that underpin specific digital financial education needs. Some of the main vulnerabilities of this group are listed below:

- Limited use of the Internet and digital tools: One third of respondents aged 55 to 69 reported not using the Internet and this percentage rises to almost 70% for people aged 70 years old and over. As shown by the survey, older adults said they often find the Internet or digital tools too complicated to use. As summarised by the low digital use score, older Internet users make use of digital tools to perform various daily activities to a limited extent.
- When using the Internet, this group shows high exposure to online risks. Older adults are less likely than middle-aged adults to know and apply basic safety procedures when being online, as evidenced by lower online safety scores. Indeed, the group aged 55 and over shows an online safety score of less than 50 on average compared to 63 on average for those aged between 25 and 39 and 59 for those aged 40 to 54.
- Those aged 70 and over - and to a lower extent those aged between 55 to 69 - appear more vulnerable than middle-aged adults in protecting their personal data, for example, with regard to limiting or refusing access to geographical location or asking website administrators to delete personal data.
- Older adults use social media, although to a limited extent. When doing so, users in older age groups do not limit access to their profile or content on social networks as much as middle-aged adult users do.
- Age is also associated with the use and awareness of digital financial products. For example, the use and awareness of the population aged 70 and over is lower than other age groups when looking at the four most used/known products in Portugal (such as MBWay or digital services to transfer money and payments with digital wallets). Online shopping is also less widespread among older age groups and appears to be less frequent among the population over 70 years old, with only 6%

of respondents in that age group shopping online often or very often, and another 18% doing so sometimes or rarely. With regard to home banking, some 51% of Internet users aged 55 to 69, and 59% of those aged 70 and over said they do not use home banking services offered with their bank account at all.

- Older respondents have among the lowest digital financial knowledge scores across all Internet users: 34 for those aged 55 to 69, and 29 for those aged 70 and over. Although this score increases to 46 for DFS users of both these age groups, this is still below the middle-aged population (55 for those DFS users aged 25-39 and 54 for those aged 40 to 54).
- Respondents in older age groups score lower than the overall population on digital financial behaviour (49 on average for those DFS users aged 55 to 69, and 46 on average for those aged 70 and over). Also, a significant proportion of Internet users in these age groups reported not looking for information on the safe use of digital financial services (52% of Internet users aged 55 or older have never looked for such information).

Low-income individuals (less than EUR 500 per month) and individuals with no or low education (primary education or less)

Both the low-income and low education population sub-groups show significant vulnerabilities in the majority of aspects covered by the survey:

- Both population sub-groups show very low levels of digital inclusion. Only 31% of those with a monthly income of less than EUR 500 said they use the Internet, and this percentage drops to 11% for those with no education. For these populations, the main reason for not using the Internet is because it is deemed too complicated to use. Also, these groups are less likely than others to engage in basic digital activities or digital financial activities, such as using online banking or shopping online.
- These groups do not apply basic online safety procedures, as evidenced by very low online safety scores. However, probably due to low digital (financial) activity, these sub-groups are less exposed to online frauds than the general population.
- The overall digital financial literacy scores of both groups are critically low compared to the average. All the three components of digital financial literacy are low compared to the overall population.

Women

While there are very limited or no gender differences in a range of aspects (such as digital inclusion and use of digital tools, online safety or exposure to online frauds and scams, among others), there are significant gender differences in the following areas:

- Men appear to be more versed in certain digital financial activities than women. For example, male Internet users (63%) shop online more frequently than their female counterparts (57%). Men also use home banking services (71%) more than women (61%). When it comes to other types of DFS, men are more prone than women to opening a bank account completely online, for instance.
- Although both genders are affected by online fraud in comparable numbers (7% of men, 9% of women), there is a gender difference in reporting having been victim of a fraud: 52% of men and 67% of women have reported this when it happened to them.
- Men have slightly higher average digital financial literacy score (61 out of 100) than women (55). This is mainly due to the fact that the digital financial knowledge score for respondents who are DFS users differ by gender, being lower for women (48 for women vs. 57 for men). Behaviours

and attitudes scores are similar across genders (behaviour: 60 for men, vs 58 for women; attitudes: 77 for men, vs 78 for women).

- Finally, women can be seen as people "at risk", that is engaging in certain digital activities but showing low skills to engage safely in them. For instance, among those who use digital tools a lot, shop online or use DFS, women are more likely than men to have low digital financial literacy.

Stakeholders' views on the main challenges related to the demand for digital financial education

The first type of challenges identified by stakeholders is related to the limited access to the Internet and to digital technologies of certain population groups: According to them, there are large social and geographical asymmetries with regard to the access to the Internet and digital technologies in Portugal. In some places, there is simply no Internet coverage while some groups of the population may have economic difficulties to afford the equipment that allows for digital interactions.

Stakeholders also highlighted that, even when people possess a digital device and have access to the Internet, certain audiences have difficulties in dealing with technology. This lack of (or limited) digital capabilities may be particularly problematic for some groups of the population, such as people with low income, migrants or older adults. Some individuals have trouble or fear using a computer and other digital tools or encounter difficulties to cope with the complexity and specificities of the digital sector and its jargon. Lack of access to digital technologies and the difficulties in using them can make digital financial inclusion and the delivery of digital financial education programmes particularly challenging.

Stakeholders also noted that the developments in the financial landscape make it difficult for many people to use digital financial services and digital tools. For instance, it is difficult to keep up not only with the rapid pace of changes in the supply of financial services and digital developments, but also with the growing complexity in financial products and services proposed. In addition, especially among older people, it is often difficult to deal with the loss of direct contact and personal communication between the customer and the banks due to the closure of branches.

Alongside these issues, stakeholders stressed that promoting digital financial literacy and mobilising the general population on this topic is challenging due to the lack of awareness among consumers on the relevance and importance of improving their digital financial literacy. Stakeholders suggested that this may be due to several factors such as the fear of the unknown, the lack of personal interest or the fact that consumers tend to overestimate their knowledge in these areas and may not seek information that could enable them to increase their financial and digital literacy.

Related to these identified challenges, Box 5-1 presents the main reasons given by stakeholders about the priority target audiences to be taken into account for the future strategy on digital financial literacy.

Box 5-1. Youth and seniors: The two priority target audiences for stakeholders

According to an overwhelming majority of respondents to the stocktaking survey and participants to the workshop, young people and seniors should be the most important target audiences of the future strategy.

Stakeholders felt that the main reason for targeting young people is that they are on the verge of entering active adulthood and are about to make important financial decisions. In addition, stakeholders suggested that young people may be influenced by information they access through social media (for instance through “influencers” or “finfluencers”). Furthermore, they are strongly exposed to digital channels. Even if they are digital natives who are considered more aware of digital topics (“tech-savvy”), stakeholders feel that they often do not have the perception of the associated risks.

One of the main reasons for targeting seniors is that Portugal has a significant percentage of the population aged 65 or above and this will increase in the future (see Box 2-3). Stakeholders highlighted that this is also the age group where there is more digital illiteracy and consequently digital financial illiteracy. This age group is considered to be more exposed to frauds and scams and shows a high risk of digital exclusion. The senior population is also facing other difficulties in terms of health, mobility or lack of family support that affect their ability to access basic services. This age group is considered the most excluded when it comes to the provision of information on digital related matters and does not have the opportunities that young people and adults often have to familiarise themselves with digital tools in educational and professional contexts.

As stressed by one stakeholder, the Portuguese society has not adapted yet to the reality of its ageing population and is not prepared for it. Indeed, with population ageing, people have to adapt and learn throughout their life so that they are digitally and financially equipped in old age. More than ever, today's and tomorrow's older people should be more financially literate and digitally competent in order to cope with different challenges arising at old age. Therefore, the society as a whole needs to change its perspective regarding the ageing of its population.

In addition to these two target audiences, several respondents highlighted the need to have a broad approach and to focus on all relevant target groups (including also people with low education or low-income, regardless of age groups). For example, several respondents highlighted the relevance of cybersecurity for all target groups, hence not only for the young and seniors.

According to stakeholders, other audiences to be targeted by the future strategy on digital financial literacy include women, migrants, micro and small entrepreneurs, as well as journalists. Another important target group could be the public administration’s employees working or in contact with certain vulnerable groups and who can play the role of multipliers of digital financial education. Finally, teachers and trainers are often having trouble to cope with the rapid changes in the digital domain and the digital financial world and should therefore be targeted appropriately.

Source: Stocktaking survey on existing digital financial education activities in Portugal

Stakeholders’ views on the main policy areas to be addressed by a digital financial literacy strategy

Cybersecurity prevention is the most cited topic by stakeholders when it comes to areas to be covered in the future strategy. Specific aspects to be included under this topic relate to the basic safety procedures to protect digital devices as well as specific knowledge about online risks (malware, phishing etc.) and how

to protect against such risks. The future strategy should also support the acquisition of skills to protect digital transactions (for example, password protection, two-factor authentication, management of privacy settings).

According to stakeholders, the second topic to be covered in priority under the future strategy is the use of digital financial services. This also includes online purchases (general tips, pricing practices, impact of advertising). The future strategy should also include knowledge about the different types of financial products and services delivered digitally, including their benefits and risks (for example, payments, home banking, credit offered through digital channels, online insurance and investments). Citizens should also be made aware of and empowered to use digital budgeting and personal finance management tools. Finally, they should also acquire knowledge about new financial players and their associated risks.

According to stakeholders, the third topic to be covered under the future strategy is personal (financial) data. The future strategy should aim to raise awareness about the importance of protecting one's personal (financial) information as well as to raise awareness about the use of personal data by financial providers (for example, to create a credit score).

Crypto-assets are also considered an important topic to be covered. Stakeholders suggested that the risks and characteristics of different forms of money and crypto-assets should be addressed, and that this is especially relevant for the young population.

Finally, according to stakeholders, consumers should be made aware of their rights. It is considered important to improve their knowledge of applicable legislation and consumer protection measures in a digital environment. They should be made aware of consumer rights to allow them to react appropriately in the face of online attacks, abuse or fraud. They should also be aware of the role of competent authorities and know which competent authorities supervise the new players in the market.

Provision of digital financial education

Summary of findings from the stocktaking survey

Chapter 3 presented an overview of the digital financial education ecosystem in Portugal, including the stakeholders involved in providing digital financial education, existing coordination and cooperation mechanisms, as well as information on which target groups and financial education content is being delivered through digital financial literacy programmes. Overall, the current state of play of the provision of digital financial education in Portugal shows heterogeneity in terms of scope, target groups, objectives, structures and methodologies used.

Number and types of initiatives

Based on the information from the stocktaking survey, in Portugal over 9 organisations were active in 2019/2021 in providing digital financial education through over 18 initiatives. While 5 organisations were delivering 8 initiatives that consisted exclusively or quasi-exclusively in providing education, information and awareness material on the use of DFS, 6 organisations were delivering 10 initiatives about providing digital and traditional education, information and awareness material on a broad range of issues, including on the use of DFS, but not focusing solely on digital financial services. When looking at the specific sub-topics covered under digital financial services, these mainly included the generic use of digital financial services (17 initiatives), the awareness of digital fraud and scams (14), the aspects related to personal information and data (13), the blockchain-based financial products (2) and strong customer authentication (1).

The existing initiatives mainly consist in training, elaborating modules and content to be inserted in training sessions and curricula, providing information on the use of DFS and other digital matters, conducting communication and awareness campaigns and participating in events.

Overall, and even if the results stocktaking do not exhaust the provision of digital financial education in Portugal, it is fair to say that there is a limited number of initiatives covering digital financial literacy in Portugal. Moreover, only 8 are covering exclusively or quasi-exclusively digital financial literacy matters. More than half of the initiatives covering digital financial literacy matters are embedded in broader content.

Targeted groups

The provision of digital financial education in Portugal is mainly targeted at young people, mostly in the formal school system. Young people in primary or secondary schools are the target group of seven different initiatives. Furthermore, a couple of initiatives target teachers only, meaning that young students are the ultimate target audience.

Delivery channels

Digital tools (online platforms, social networks, websites, etc.) are the most favoured channels to deliver digital financial education in Portugal. Only one initiative used mass media (TV and radio). Some 10 initiatives are using social media, such as Facebook, Instagram, YouTube and LinkedIn, mainly as a tool to publicise the initiative. Importantly, several initiatives have no means in place to reach digitally excluded audiences.

Monitoring and evaluation

While the majority of initiatives are monitored, only six initiatives delivered digitally monitor their implementation through automated means (such as automated collection of indicators like the number of participants, registrations, subscribers, website/platform views or training sessions carried out or the number of certifications given).

The majority of stakeholders does not evaluate their initiatives. Different challenges such as the difficulty to assess the effectiveness and the impact of the information provided or the difficulty to define and implement metrics to evaluate and monitor the development of initiatives for specific target audiences can explain the low number of initiatives being evaluated.

Cooperation and coordination among stakeholders

Most of the responding institutions, from the public, not-for-profit and private sectors, strongly engage in forms of cooperation in the design or delivery of digital financial education initiatives.

Stakeholders' views on the main challenges related to the supply of digital financial education

Both during the workshop and in replying to the stocktaking questionnaire, stakeholders shared their views on the main challenges in developing and delivering digital financial education programmes in Portugal.

The first type of challenges for the providers of digital financial education programmes relates to limited resources, both in terms of budget and expertise. Stakeholders reported that there is a lack of financial resources to develop and implement initiatives and a difficulty to raise medium or long-term funding for the implementation of projects. In addition, funding is lacking for research projects and data collection exercises that could fill evidence gaps and that could support an effective design and implementation. Stakeholders also regret a lack of human resources and expertise for each target audience.

Stakeholders highlighted the challenges related to the context and the changing nature of the digital world in which digital financial education programmes are developed. Indeed, the digital world and the related risks are constantly changing, at a much faster pace than the products and risks of the offline world. This requires a constant update of digital financial literacy initiatives and their content. Stakeholders report the difficulty to ensure quality and timeliness of pedagogical resources on multiple electronic platforms.

There is also a range of challenges related to the implementation of initiatives according to stakeholders: First, the diversity of audiences makes the identification and assessment of training needs often difficult. Once the needs are identified, many challenges arise as different needs require differentiated actions in terms of both content and methods. It is often challenging to define simple, clear, focused key messages but also dynamic, interactive and interesting content that captures the interest of each target audience. Similarly, stakeholders report difficulties to identify how and in what format citizens or specific groups should be targeted. For example, digital channels may be a way to spread a message quickly and at lower costs and although it may be an effective approach to carry out awareness campaigns, it will hardly be enough to change attitudes and behaviours. Likewise, campaigns on social media may allow a very broad reach, but the information they convey may fail to be properly processed by individuals, as these digital spaces are overloaded with information competing for consumers' attention.

Stakeholders reported difficulties to reach and make initiatives accessible to all citizens - especially the most vulnerable and the most in need - and to ensure proximity with target audiences. Very often, a trade-off has to be found between scaling up the reach of digital financial education initiatives and at the same time providing more personalised initiatives (in terms of content, delivery etc.) in order to efficiently take into account the specificities of certain vulnerable target audiences.

Finally, stakeholders highlighted the obstacles encountered in the coordination of financial education initiatives. Some of the initiatives already in place are considered too territorially concentrated in large urban centres. As a result, they may lack the granular coverage required to reach the most vulnerable consumers.

Identification and analysis of gaps

By comparing, on the one hand, the digital financial literacy needs identified through the OECD 2022 survey and the views of stakeholders, and, on the other hand, the existing provision of digital financial education in Portugal, it is possible to identify and analyse gaps in provision that could be addressed by the future digital financial literacy strategy.

It is important to note that numerous digital financial literacy needs are identified and addressed to a certain extent by existing initiatives. For instance, existing initiatives are covering some of the key topics identified (such as safe use of DFS, raising awareness on frauds and scams as well as aspects related to the protection of personal data). Existing initiatives are mainly targeting young people (as well as elderly although to a lesser extent), who have been identified in this report as groups with specific vulnerabilities.

Nonetheless, future efforts could support the population in Portugal to make a safe use of digital financial services and tools by addressing the following gaps in the provision of digital financial education.

Reach of initiatives and awareness of the importance of digital financial literacy

- **More could be done to increase the reach of digital financial education initiatives.** Indeed**,** the number of actors involved in the provision of digital financial education (9), the number of initiatives (18) as well as the number of individuals reached by existing initiatives could be further increased given that large parts of the population have limited digital financial literacy and low online safety scores.

- **More prominence could be given to make the Portuguese population aware of the importance of improving their own digital financial literacy.** While this may be beyond individual digital financial education initiatives, there is also scope for increasing the awareness among the population of the characteristics and risks related to digital tools and DFS.

Content of digital financial education

- **More could be done to improve digital financial literacy on specific topics.** Currently, the topics that are more frequently addressed in digital financial education initiatives are the use of digital financial services, scams and frauds, and aspects related to personal data protection. While these are essential to nurture a safe use of DFS, these topics could be covered with greater granularity and there is scope for covering other topics that are part of digital financial literacy:
    - *With regard to digital (financial) inclusion:* Digital financial education initiatives could make greater efforts to address some of the main causes of the low take-up of digital tools and digital financial services. Existing or new programmes could notably aim at equipping the population with greater skills to face the complexity of digital tools and/or DFS. This could be done as a complement to potential action to reduce complexity on the supply side. This is especially relevant for certain groups such as the elderly, those with low education and low income.
    - *With regard to online safety and safety when using DFS*: Digital financial education initiatives could make sure to improve certain online safety behaviours (change passwords regularly, use strong and different passwords for different accounts, safety procedures in the use of apps, report frauds etc.). In addition, given the prevalence of the use of phone over computer/laptop, more effort could be given to raise awareness on the issues that such a use may foster (e.g. smaller screens, more multitasking with the phone, more integration of the phone with daily activities etc). Finally, initiatives could ensure to focus on specific fraud techniques, based on evidence from attempts experienced by the Portuguese population, i.e. those occurring when paying and shopping online, using credit cards or experiencing phishing scams in the name of banks and financial institutions.
    - *With regard to personal data protection*: Certain specific topics such as the use of personal data by digital financial providers, the protection of personal data in a social media context, or the importance to protect personal data regularly could be covered more in depth and by a greater number of financial education initiatives.
    - *With regard to digital financial knowledge:* Several aspects where the Portuguese population shows limited knowledge could be covered more in depth and by a greater number of digital financial education initiatives. It includes, among others: the awareness about the fact that, generally, the same requirements apply regardless of whether an activity is carried out online or in other ways, awareness about certain pricing or marketing practices applied by online providers, awareness about the features offered by financial institutions to secure online payments.

      Also, specific aspects related to consumer rights in an online context could be further covered by digital financial education initiatives. Indeed, results of the survey show a low percentage of correct answers to questions related to consumer rights (for example, just above one third of the respondents know that an online purchase can be cancelled in the EU within 14 days). Moreover, raising awareness on aspects related to regulation of DFS (for example, the fact that some online financial services providers may not be regulated by financial authorities in Portugal) could also be addressed further.

Finally, digital financial education initiatives could further focus on raising awareness and understanding about the risks, legal tender and regulatory aspects of crypto-assets as only two initiatives are currently covering financial products based on blockchain technology.

- *With regard to digital financial behaviour:* some aspects of digital financial behaviour could be further addressed by digital financial education initiatives. This includes the importance of reading and understanding information and disclosure documents, knowing where to get information about frequent financial scams, online frauds or on the safe use of digital financial services, or the importance to distinguish between reliable and unreliable sources of information
- *With regard to digital financial attitudes:* digital financial education initiatives could also aim at supporting certain online safety attitudes when being online or using DFS, for example with regard to not shopping online when using public Wi-Fi networks or how the digital domain may exacerbate behavioural biases.

Recipients of digital financial education

- **More efforts could be devoted to addressing the needs of specific socio-demographic groups.** When looking at the target audiences of the initiatives covering DFS, the majority of initiatives focuses on young audiences (also including those targeting their teachers) and to a lesser extent on the elderly or other relevant groups. Although younger people may need digital financial education on topics more focused on data protection and knowledge of certain more sophisticated DFS and their risks, other groups could benefit from greater prior digital financial literacy. More specifically, people aged 55 and over (with a specific focus on those aged 70 and over), people with low or no education as well as those with (very) low income have a limited use of DFS and digital tools and they may first benefit from digital financial education on topics such as those related to the use of digital tools and DFS and online risks. This could contribute to avoid that they may become financially (or socially) excluded. Also, even if women have similar scores on online safety and digital financial behaviour than men, they may be given the tools to improve the financial knowledge so that they can benefit more fully from DFS and digital tools.
- **Further efforts could be done to reach digitally excluded individuals**. As stressed in Chapter 3, many of the initiatives are delivered in a completely digital way and only few of them have mechanisms in place to reach digitally excluded audiences. In parallel, the survey shows that specific sub-groups are more digitally excluded than others. This is for example the case for seniors aged 70 and over, individuals with no education or with primary education only as well as those with very low income.

Format and delivery of digital financial education

- **Adapting the format and delivery of digital financial education initiatives to individuals' needs and preferences.** Between 2019-2021, most initiatives were delivered through digital channels, including via online e-learning platforms such as *Todos Contam* (12 initiatives), social networks (10) and websites (9). The remaining delivery methods used were face-to-face (10), printed material (5), and only one initiative used traditional media such as radio/TV. Although many initiatives were designed to be delivered in a face-to-face or hybrid format, some of them had to shift to a digital format as a result of the COVID-19 pandemic. Given some of the limited digital skills of specific population groups, more efforts could be done to ensure a delivery according to the preferred and most suitable learning method of various groups, namely through the use of non-digital channels. As an example, taken from a recent survey, Box 5-2 provides insights on how the delivery of financial education could be improved for retail investors. Such insights could also turn out to be relevant for other population sub-groups.

Box 5-2. How would retail investors like to learn about financial matters?

A core aspect of the 2021 study "Financial literacy for investors in the securities market in Portugal" was to understand how financial knowledge and information could be improved in Portugal.

Investors were asked what initiatives they would recommend in order to improve awareness about investments among other Portuguese citizens. Training programmes were mentioned often (49%), followed by workshops and seminars (35%). Training programmes and workshops were particularly preferred by the youngest age group (62% and 50% respectively), compared to the other age groups.

To take the opportunity of understanding the reach of *Todos Contam* website, respondents were asked whether they had used the information or measures offered. The results show that 90% of respondents have not used *Todos Contam* website. The main reason mentioned had to do with a lack of awareness (78%). Thus, the report recommends increasing visibility efforts to ensure such programmes can achieve maximum impact. Looking into what the respondents would expect from a course on financial matters, most said "practical knowledge" (63%), followed by theoretical knowledge (40%).

A final question for respondents was the aspects they would welcome in a course or other educational material on financial matters online. Many indicated that they are not interested in accessing these types of programmes (40%), in particular those that have never invested (51%). Investors were rather interested in simulations (44%), followed by phone apps (40%), the preferred tools among the respondents.

Source: Financial literacy for investors in the securities market in Portugal (VVA and KPMG, 2021[55])

- **Fostering longer term behaviour change towards safe use of DFS.** Most initiatives covered in Chapter 3 are about providing information or raising awareness on specific issues. Although the provision of information or awareness raising on specific issues that make consumers vulnerable is essential, especially if provided at the right moment, it may be less effective in supporting consumers to acquire financial skills and forming safe digital financial behaviours. Therefore, more efforts could be done to develop initiatives that foster learning by doing and aim at shaping sound behaviour and attitudes in the use of DFS. In 2019/2021, the majority of the initiatives were either one-off events (awareness campaigns or provision of information) or one-off webinars/training sessions on a specific topic (with an ongoing aspect – in the sense that people can have access to the material after the event occurred). This suggests that the majority of initiatives presented in this report are rather short-term and not recurring. More efforts could be done to complement short and focused awareness raising campaigns with longer term initiatives.

Monitoring and evaluation

- **Automated monitoring and evaluation of digital financial education initiatives could be more systematic**. While the majority of initiatives covered in Chapter 3 are monitored, only one third of the initiatives delivered digitally is monitored in an automated way. More efforts could be made to fully use the analytic features of digital tools. Moreover, the majority of respondents does not evaluate their initiatives, hence there is a need to more systematically evaluate the impact of the initiatives delivered.

Annex A. The stocktaking survey

1. Respondent's details

1.1 Institution's name:

Contact person:

E-mail:

1.2 Please select the category that applies to your institution:

☐ Public authority (e.g. Central Bank, Financial Regulatory Authority, Ministry, etc.). Please specify:

☐ Civil society stakeholder:

☐ Non-government organisation

☐ Consumers' association

☐ Employers' association

☐ Trade union

☐ Teachers' association

☐ Media

☐ University/academia

☐ Other

Please specify and provide detail:

☐ Private sector entity:

☐ Industry body (e.g bank association, insurance association, private pensions providers association)

☐ Other

Please specify:

1.3 Please briefly describe the nature and areas of work of your organisation:

2. The relevance of digital financial literacy initiatives in Portugal and your expertise

2.1 Do you think that improving digital financial literacy is important?

☐ Yes

☐ No

2.2 [ask if YES to question 2.1] Please explain why do you think that improving the digital financial literacy of people is currently relevant in Portugal (open question).

2.3 Please explain what are the main challenges faced by individuals and households in using digital financial services and digital tools (open question).

2.4 Do you have any initiative in this domain?

☐ Yes

☐ No

2.5 [ask if YES to question 2.4] Please explain how your institution contributes to increasing digital financial literacy in Portugal, and its overarching goal with respect to digital financial literacy (open question).

2.6 [ask if YES to question 2.4] Does your organisation cooperate with other public, private or not-for-profit stakeholders in areas related to digital financial literacy, financial literacy for DFS, or digital provision of financial education?

2.7 In your opinion, what are the main challenges in developing digital financial literacy in Portugal?

2.8 Please indicate which in your opinion should be the priority target groups that should be addressed by a digital financial literacy strategy in Portugal (e.g. youth, seniors, etc.). Please also explain why you identify such target group.

2.9 Please indicate which in your opinion should be the area of digital financial literacy that should be addressed in priority by a digital financial literacy strategy in Portugal (e.g. using DFS, protection of personal financial data, mitigation of cybersecurity risks, risks and features of crypto assets, etc.)

2.10 If your organisation collected data on the digital financial literacy of the population in your country, or conducted relevant research related to individual behaviour related to the use of DFS, please provide the link here or send the document to the OECD:

3. Your initiative(s)

For this section please focus on **past** initiatives (not older than 3 years), **current** initiatives, and initiatives **planned** for the near future.

Please focus on the following initiatives:

- Provision of education, information and awareness material (via traditional and/or digital tools) on the use of **DFS**;

- Provision of financial education through **digital** tools (this can cover any topics, not just the use of DFS).

At the end of this section, you will be given the option to add information for additional initiatives (no more than 10)

Detail about your initiative

3.1 Name of initiative (please provide web links to your initiative, if possible):

3.2 Please provide timeframe information about your initiative (tick box):

☐ Start date (in the past or foreseen): [in date format]

☐ End date (if past or foreseen): [in date format]

☐ Open ended

3.3 Please provide frequency information about your initiative (tick box):

☐ Reoccurring

Please provide detail:

☐ Non-reoccurring

3.4 Please provide details on the data or research that informed the design of your initiative, and how it was designed (please indicate whether any specific core competencies have been considered, whether specific behavioral insights, innovative technologies etc. have been employed) (open question):

3.5 Please briefly describe the expected outcome(s) of the initiative. For example, increasing knowledge or familiarity in a policy area (banking products, investing, saving, etc.), improve knowledge or behaviours, address specific problems such as overindebtedness or enhance individual familiarity with particular developments within financial markets (such as digitalisation).

Objective(s):

Expected outcome(s):

Delivery of the initiative

3.6 What channels are used to deliver the initiative? (please select all that apply):

☐ Print (brochures, newspaper etc.)

☐ Mass media (TV, radio etc.)

☐ Face to face

☐ Digital media (videos, apps, website etc.). If yes: which type of digital media:

☐ Website

☐ App

☐ Social media

☐ Others (Please provide details):

☐ Other

Please provide details:

3.7 Who delivers the initiative? :

3.8 How do you reach target audience with limited digital skills or limited access to digital tools/media (please provide details)?

Content of the initiative

3.9 What topics does the content include (please select all that apply)?

☐ Digital finance. If yes:

☐ Generic use of digital financial services,

☐ Aspects related to personal information/data

☐ Digital fraud and scams awareness

☐ Block-chain based financial products (crypto-assets, ICO etc.)

☐ Others (please provide details) :

☐ Financial inclusion

☐ Budgeting

☐ Saving

☐ Safe use of credit

☐ Debt and overindebtedness

☐ Investing

☐ Consumer rights and responsibilities

☐ Payment services (e.g. cards, transfers)

☐ Insurance

☐ Retirement/pensions

☐ Sustainable finance

☐ Other (Please provide details):

3.10 Please describe the content of the initiative (open question):

3. 11 Is the content of the initiative updated regularly (tick box)?

☐ Yes

Please provide details:

☐ No

3.12 Please provide details on any specific pedagogic material developed for or used by the initiative:

3.13 Who is the target audience(s) of the initiative? (please select all that apply)

☐ All population

☐ Kindergarten children

☐ Basic education students

☐ Secondary education students

☐ University students

☐ Young people who have dropped out of school

☐ Elderly people

☐ Micro and Small entrepreneurs

☐ Women

☐ Retail investors

☐ Employees

☐ Unemployed

☐ People struggling with debt

☐ Digitally excluded individuals

☐ Other, please explain

3.14 Has the COVID-19 pandemic influenced changes in the delivery and/or content of your initiative (tick box)?

☐ Yes

Please provide details:

☐ No

3.15 How many people are reached by the initiative (please provide numbers or approximate number ranges):

Monitoring and evaluation of the initiative

For reference:

Monitoring refers to a set of activities that track the implementation of an initiative, including through gathering specific KPIs of the initiative at regular time intervals, such as the number of individuals the initiative reaches, the resources used, etc. In the case of digital initiatives, such data gathering/monitoring can be automated to track enrolment, drop-outs, number of website views and duration of attendance or connection, number of interactions on social media posts/page etc.

Evaluation generally refers to the process of assessing whether the programme is reaching the set "objectives" and "expected outcomes". Typically, the evaluation is less frequent or regular than monitoring efforts, but it builds on data gathered through the monitoring process and other quantitative and qualitative inputs, to provide a detailed analysis of the impact of the initiative on the end beneficiary.

3.16 How do you monitor the implementation of the initiative (please describe process and possible KPIs monitored)?

3.17 [ask if responded "digital media" or "others" to question 3.6] For initiatives delivered digitally, is there an automated monitoring/data collection?

☐ Yes

Please provide details:

☐ No

3.18 Have you evaluated the effectiveness and impact of the initiative?

☐ Yes

Please provide details on the methodology used and the main results. Please provide any links to publications, if available:

☐ No

Lessons learnt

3.19 Lessons learnt: please provide information on what you learnt in the design and implementation of the initiative, what you would do differently, what was effective and could be replicated in the context of the strategy?

3.20 Did you encounter possible constraints regarding the implementation of a particular initiative (resources, expertise, available materials, etc)? if so please provide more details .

Annex B. Respondents to the stocktaking survey

Public sector	• Banco de Portugal (*Banco de Portugal*) • Commission for Coordination and Regional Development of the Center (*Comissão de Coordenação e Desenvolvimento Regional do Centro - CCDRC*) • Faculty of Economics of the University of Porto (*Faculdade de Economia da Universidade do Porto*) • General Secretariat of the Ministry of Labour, Solidarity and Social Security (*Secretaria Geral do Ministério do Trabalho, Solidariedade e Segurança Social*) • Institute of Employment and Vocational Training-I.P. (*Instituto do Emprego e Formação Profissional*) • Ministry of Education – Directorate General for Education (*Ministério da Educação - Direção-Geral da Educação*) • National Institute of Administration (*Instituto Nacional de Administração-INA*) • Northern Regional Coordination and Development Commission (*Comissão de Coordenação e Desenvolvimento Regional do Norte - CCDR-Norte*)
Not-for-profit organisations with no direct link to the financial sector and with an interest in financial education[50]	• Dr. António Cupertino de Miranda Foundation (*Fundação Dr. António Cupertino de Miranda*) • Portuguese Association for the Defense of Consumers (*Associação Portuguesa para a Defesa do Consumidor - DECO*)[51] • Portuguese Psychologists Association (*Ordem dos Psicólogos Portugueses*)
Not-for-profit organisations with links to the financial sector but no direct commercial interest	• Association of Specialised Credit Institutions (*Associação de Instituições de Crédito Especializado - ASFAC*) • National Association of Authorised Credit Intermediaries (*Associação Nacional Intermediários de Crédito Autorizados - ANICA*); • Portuguese Association of Insurers (*Associação Portuguesa de Seguradores - APS*) • Portuguese Association of Investment, Pension and Property Funds (*Associação Portuguesa De Fundos De Investimento Pensões E Patrimónios - APFIPP*) • Portuguese Banking Association (*Associação Portuguesa de Bancos - APB*)

Annex C. Overview of responses to the stocktaking survey: initiatives that consist exclusively or quasi-exclusively in providing education, information and awareness material on the use of DFS

Provider(s) of the initiative	Name of the initiative	Content of the initiative
Banco de Portugal	Dedicated areas of fraud prevention and digital security in the Bank Customer Website of Banco de Portugal and on the website *Todos Contam* of the National Plan for Financial Education	Goals and expected outcomes: This initiative aims to disseminate information on cyber-security risks and fraud schemes and promote a safe use of digital channels to access financial products and services. Format and content: The Banco de Portugal's Bank Customer Website has a dedicated area[52] with information on the risks posed by using digital channels to carry out banking operations such as making payments with credit cards/apps, how to make a safe use of these channels and what to do when one is a victim of fraud. More generally, the Bank Customer Website provides information on bank customers' rights and duties when using banking products and services (mortgage and consumer credit, deposits and accounts, and payment services). The website of the Portuguese National Plan for Financial Education *Todos Contam* has also an area dedicated to fraud prevention[53]. The website contains information on the most frequent types of digital scams, as well as on the precautions to take when accessing and using digital financial services, namely banking products and services, investments and insurance. More generally, the *Todos Contam* website offers information and tools for managing personal finances, from budgeting to saving, taking credit and insurance and avoiding scams or frauds. The pandemic has resulted not only in certain topics being addressed in the websites (for example contactless payments), but also in the development of more content on topics related to online safety, as this was a period when people spent more time online. Delivery channels: This initiative is entirely online (website and social media - Facebook). Main target audience: All population. Main topics covered: Generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness. Reach of the initiative: The website *Todos Contam* has had around 45 000 monthly viewers since 2018 (information on views of the dedicated area is not available). The Bank Customer Website has had an average of around 150 000 monthly viewers since 2018 (information on views of the dedicated area is not available).

Provider(s) of the initiative	Name of the initiative	Content of the initiative
Banco de Portugal	#toptip campaign on digital financial education	In September 2018, the Banco de Portugal launched the #toptip campaign on the Bank Customer Website[54] and on social media (Instagram). Goals and expected outcomes: The campaign aims to raise awareness among secondary school students on the safe use of digital channels when accessing and using banking products and services. The campaign includes the following 5 tips: "Don't make the Internet a high-risk gamble"; "Your phone says a lot about you"; "Think before you post"; "Don't be tricked"; "Don't give in to fraud". These campaign tips were also compiled in a brochure[55] named "5 tips for staying safer online - #toptip", which was distributed among all secondary schools throughout the country. Furthermore, this campaign includes training sessions that are carried out by the Banco de Portugal's regional network on a regular basis. These training sessions have been adapted to be delivered digitally during the pandemic (through videoconference). Some of the training sessions in schools follow a game-based learning approach: The Banco de Portugal created a game called 'Armoured Mission', where students become cybersecurity experts specialized in online fraud prevention. Their mission is to alert employees of their 'companies' to existing risks such as fraudulent emails, insecure passwords or telephone calls aiming to defraud the workers and the company. For each security breach, their 'company' suffers a negative financial impact. In the end, the team with the least financial losses wins. Delivery channels: Face-to-face, printed, digital media (website, social media-Instagram- and videoconference). Main target audience: Secondary education students. Main topics covered: Generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness. Reach of the initiative: Approximately 19 000 brochures were distributed among more than 700 secondary schools. The Banco de Portugal, with the support of its regional network, carried out financial training sessions throughout the country that reached around 7 000 students
Banco de Portugal	Online awareness campaigns on cybersecurity risks	Since March 2016 and on a regular basis, the Banco de Portugal launches awareness campaigns on cybersecurity risks through the Bank's Customer Website and social media. Goals and expected outcomes: The campaigns aim to raise bank customers' awareness on the features and risks of new digital financial services and warn them about the importance of adopting resilient behaviours to avoid online scams and cybersecurity attacks. When launching awareness campaigns, particular attention is given to special occasions such as the European Cybersecurity Month, the Internet Day or the Christmas period. For example, the campaigns on strong customer authentication and on contactless payments were launched when new rules entered into force. The content of the initiative is also adjusted to include the more relevant issues in each case. For example, in a campaign during the Christmas period one relevant topic would be how to make online payments safely. Delivery channels: This is mainly an initiative online (website, social media). However, in many cases, the Banco de Portugal complements these online campaigns with printed materials and traditional mass media campaigns (TV and radio) to reach digitally excluded people. One example was the campaign on strong customer authentication. This campaign included a video, which was published on social media and on the main free-to-air television channels. Main target audience: All population. Main topics covered: Generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness, contactless payments, strong

Provider(s) of the initiative	Name of the initiative	Content of the initiative
		customer authentication (two-factor authentication).
Banco de Portugal	Training on the safe use of digital channels and fraud prevention	This broad initiative consists of a series of training courses to different target audiences. Goals and expected outcomes: This recurring initiative aims to strengthen the digital financial skills of different target groups. The initiative includes: – Training courses by the Banco de Portugal on the safe use of digital channels and fraud prevention: since 2016, the Banco de Portugal has included topics such as fraud prevention and the safe use of digital channels in the training sessions delivered through its regional network at the request of local entities (e.g. schools), aimed at students, seniors and other vulnerable groups; – In the scope of the National Plan for Financial Education, during Global Money Week 2021, an online debate "Digital channels, digital risks" was organised in order to make students discuss the safe use of digital channels. Students from four different secondary schools participated in this initiative, which involved several steps. First, all students answered an online survey about their behaviours when using digital channels. The results of these surveys were subsequently discussed in the classroom and students were asked to prepare a summary of the main findings, in particular on the risk behaviours identified in the use of digital channels. Finally, two students from each school were invited to participate in an online debate, to present their conclusions and discuss ways to use digital channels more safely; – The Bank and the Ministry of Education organised webinars for teachers (see initiative from the Directorate-General for Education above). Delivery channels: Face-to-face, digital media (webinars and videoconferences). Main target audience: Secondary education students, elderly people and teachers. However, these initiatives also end up being appropriate for the general population Main topics covered: Generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness. Reach of the initiative: The training sessions delivered by the Banco de Portugal with the support of its network have reached around 890 adults (mostly seniors) since 2018, on top of the 7 000 students mentioned in #toptip campaign. The online debate during GMW2021 reached 190 secondary school students. The webinars for teachers reached around 5 000 participants.
Directorate-General for Education (in cooperation with the Banco de Portugal and the CMVM)	Teacher training program - Webinar series	In the scope of the National Plan for Financial Education, between 2020 and 2021, the Directorate-General for Education launched a series of webinars in cooperation with the Banco de Portugal and the CMVM. The 1-hour webinars covered the following topics: – The first webinar[56] "Safe Surfing - Digital payments" was held on 7 July 2020 by the Banco de Portugal and the Directorate-General. The Banco de Portugal presented the #toptip campaign related to the precautions to be taken when using digital channels to access financial products and services, in particular to make payments. – The second webinar[57] "Cybersecurity in financial transactions" was held on 7 October 2020 and it was promoted by the Portuguese Securities Market Commission and the Directorate-General. It addressed topics such as the care to be taken by investors in preventing digital fraud situations, the importance of cybersecurity in financial transactions and the behaviour of investors in a digital environment – In a third webinar[58] "The importance of social media on investment decisions and cryptocurrencies" held on 11 October 2020, the CMVM presented topics such as: young people investment, the growing importance of social networks as investment

Provider(s) of the initiative	Name of the initiative	Content of the initiative
		and financial education sources of information, fraud prevention in financial investments, new financial intermediation business models and new trends in investment. It also addressed online transactions, basic concepts of investment and crypto-assets. Goals and expected outcomes: The webinars aimed to encourage the safe use of digital channels to access banking products, to prevent fraud in trading through digital channels (online trading platforms), to raise awareness on behavioural biases and to protect consumers. Delivery channels: The initiative was delivered fully online. The webinars were broadcast on three DGE Facebook channels (*SeguraNet*, Digital Security Label and Educational Technologies and Resources Team) and on its YouTube channel. The webinar on "Cybersecurity in digital transactions" was also streamed on CMVM's World Investor Week website. Main target audience: Lecturers/teachers, secondary education students. Main topics covered: Safe use of credit, debt and over-indebtedness, financial inclusion, generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness, block-chain based financial products (crypto-assets, ICO etc.) Reach of the initiative: The first webinar "Safe Surfing - Digital payments had a total of 1 469 participants while the second webinar on Cybersecurity was attended by 3 787 teachers.
Portuguese Association of Investment, Pension and Property Funds – APFIPP (in cooperation with Euronext Lisbon and MoneyLab)	Set of webinars	Goals and expected outcomes: Since 2020, APFIPP has developed, in cooperation with Euronext Lisbon, a set of webinars entitled "Invest Talks" included in the celebrations of the "World Investor Week" in Portugal. These webinars aim at clarifying and raising awareness on specific topics. Format and content: The first webinar[59] entitled "Invest Talk: Saving & Investing" was held on 6 October 2020 in collaboration with the financial literacy lab MoneyLab. It consisted in an interactive and practical conversation about saving & investing, between APFIPP's top representatives and the Portuguese Stock Exchange (Euronext Lisbon) to address and explain topics such as the importance of saving, the fundamentals and characteristics of capital markets, and investment and pension funds as instruments for investing savings. In October 2021, APFIPP and the Euronext held two more webinars under the name "Invest Talks: Behaviour and Investment Security", bringing together experts in two practical talks of about 20 minutes each, moderated by a well-known journalist. The first one "Capital Markets, digitalisation and cybersecurity"[60], held on 7 October 2021, focused on raising awareness about cyber security. The second one "Behavioural Finance"[61] was held on 12 October 2021 and focused on behavioural finance aspects. Delivery channels: Fully online (YouTube and Facebook). Main target audience: All population with a specific focus on retail investors and university students. Main topics covered: Generic use of digital financial services, cyber security, investing, saving, behavioural finance. Reach of the initiative: The initiative that took place in October 2020 was viewed more than 1 000 times live, and by the end of that year reached about 4 700 views. As for the two initiatives held in 2021, each recorded 500 live views, having a week later recorded more than 19 000 views each.

Provider(s) of the initiative	Name of the initiative	Content of the initiative
Portuguese Association of Insurers - APS	Two books *Armadilha digital* ("Digital Trap") and *Talvez uma app* ("Perhaps an app") under the book collection *Seguros e Cidadania*	As part of the *Seguros e Cidadania* ("Insurance and Citizenship") book collection, the APS sponsored the publication of two books focusing on digital-related issues and the role of insurance, under the titles *Armadilha digital* and *Talvez uma app*. Goals and expected outcomes: The books aim to raise awareness on strategic issues about cybersecurity and cyber risks (such as risks of using the Internet, hacking and hacker activity) and to foster preventive behaviours that ensure protection in a digital environment. Format and content: The book *Armadilha digital* aims to raise awareness on strategic issues about cybersecurity and cyber risks - risks of using the internet, hacking and hacker activity, and preventive behaviours that ensure protection in a digital environment. It was officially launched in two classes in a school in Porto with the presence of the two authors. The sessions were followed by a discussion with students on the themes covered in the book. The book *Talvez uma app* aims to show that the digital world and the ideas about the utility of several applications in the insurance industry can become a career path for young people in the 21st century. The book was launched on 9 December 2020 through a web event[62] aimed at students in the 3rd stage of basic education and included interventions by the authors. A video[63] with testimonials from young people about the book was created and uploaded online. When appropriate, APS holds specific sessions on the books (for example during a session included in the "Edu Day" (Education Day). The books in this APS collection illustrate problems that arise in people's lives, encouraging reflections and dialogue on a number of issues that young people and families may face, and help to clarify the role of insurance in financial education. In addition, an online platform[64] dedicated to the books and related resources was created in partnership with SAPO: *O risco espreita*. Delivery channels: Printed, face-to-face, digital media (website[65], social media, online platform –SAPO). The hard copies of the books are made available through the Network of School Libraries. Also, a single leaflet is provided with the book *Armadilha digital*, with four QR codes associated with videos explaining certain types of cybercrime and how young people should act preventively. Main topics covered: Insurance, generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness, cyber security/cyber risks (such as identity theft, phishing, password theft, email scams and bank card cloning). Main target audience: Basic education students, secondary education students as well as teachers and students' families. Reach of the initiative: Printing of 2 000 copies of the books, distributed to around 500 school libraries in the country.
Portuguese Banking Association – APB (in cooperation with parish councils -*juntas de freguesia*-, universities for the senior or local libraries network)	Digital Literacy Programme for senior people: "Everything you need to know about online banking"	The 1st edition of this training programme was launched in September 2021 and lasted until July 2022. Other editions are foreseen. Goals and expected outcomes: The goals of this program are to: – promote a set of basic digital competences from the user's perspective, – contribute to equip the target group to the use of digital channels and avoid DFS exclusion, – raise awareness on the importance of adopting more informed and safer financial behaviours and therefore reduce the risk of exposure/vulnerability to fraud situations, – contribute to raise the levels of digital literacy and financial literacy in Portugal. Format and content: This programme intends to convey a set of basic notions that allows the elderly population to execute some of the essential day-to-day banking transactions,

Provider(s) of the initiative	Name of the initiative	Content of the initiative
		through online channels (examples: transfers, payments, check one's bank account through the computer or phone, being alert and knowing how to protect oneself from possible fraud attempts, etc). The programme has a monthly frequency. It is composed of 12 sessions about 12 different topics, organised by representatives of APB's associated banks. The topics are presented in a simple, clear and accessible way. The sessions are structured in the following way: Viewing of the video on the topic, then presentation of the topic followed by a Q&A session with the audience. Delivery channels: Even if initially the sessions were to be delivered face-to-face, they were adjusted to be online. The initiative is now mainly digital (available through website). However, in order to reach the digitally excluded senior population, APB is supported by institutions working regularly with this segment of the population on the ground such as parish councils (*juntas de freguesia*), universities for the senior or local libraries' network. Main topics covered: Payment services, generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness. Main target audience: The initiative focuses on the elderly population. However, some of the entities mentioned under "delivery channels" also enrol their workers (especially social workers) so that they can convey this information to other people interested in these matters. Furthermore, the twelve videos have been made available for the general public on APB's website. Reach of the initiative: About 50/70 participants per session. Link: https://www.apb.pt/educacao_financeira/iniciativas/programa_de_literacia_digital/

Note: Total number of initiatives=8
Source: Stocktaking survey on existing digital financial education activities in Portugal, workshop.

Annex D. Overview of responses to the stocktaking survey: initiatives about providing digital and traditional education, information and awareness material on a broad range of issues, including on the use of DFS

Provider(s) of the initiative	Name of the initiative	Content of the initiative
Banco de Portugal	Social media advertising campaigns	Goals and expected outcomes: These campaigns started in October 2020 and aim at raising awareness on financial education contents and tools. Format and content: This initiative regards the advertising of financial education content through social media, entailing different initiatives, for example: – A campaign on the basic bank account based on a video and several text posts (published on the Instagram, LinkedIn and Twitter pages of Banco de Portugal). – A campaign on the tools and content of the *Todos Contam* website based on four short videos (published on the Facebook page of *Todos Contam*). – A campaign on the financial education workbook 4 for secondary school students (published on the Facebook page of *Todos Contam*). Delivery channels: This is an initiative entirely online on social media (Facebook, Instagram, LinkedIn, Twitter, YouTube etc.) and website (*Todos Contam*). However, the basic bank account social media campaign was complemented with a video, brochures and posters presented in the branches of key public services. Main topics covered: Budgeting, saving, safe use of credit, debt and over indebtedness, investing, consumer rights and responsibilities, payments services, insurance, retirement/pensions, basic bank account, generic use of digital financial services, aspects related to personal information/data. Main target audience: All population. Reach of the initiative: The short videos on tools and contents of website *Todos Contam* have reached around 100 000 views on YouTube and Facebook (until December 2021). During the period in which the basic bank account campaign was active, the video reached around 23 000 people on LinkedIn, 153 000 on Twitter and 108 000 on Instagram
Banco de Portugal (in cooperation with the Ministry of Labour,	Training through digital channels	Goals and expected outcomes: Improve the financial literacy of certain groups of the population. Format and content: The training through digital channels entails several initiatives, namely:

Provider(s) of the initiative	Name of the initiative	Content of the initiative
Solidarity and Social Security, Ministry of Economy and Institute for Employment and Vocational Training)		– Specific training on basic bank accounts for employees of four bodies of the MTSSS that provide public services for vulnerable people, delivered by the Banco de Portugal. – Training of trainers of managers of micro, small and medium-sized enterprises, delivered by the three financial supervisors in the scope of the partnership established with the Ministry of Economy (through the Portuguese Tourism Agency and the Public Agency for Competitiveness and Innovation) under the Portuguese National Plan for Financial Education. – Training of trainers of the unemployed and other vulnerable groups, delivered by the three financial supervisors in the scope of the partnership established with Institute for Employment and Vocational Training, under the Portuguese National Plan for Financial Education. Delivery channels: The training sessions used to be conducted face-to-face, but they have been adapted to be delivered digitally during the pandemic. In the future, hybrid solutions of face-to-face and online training may be adopted. Main topics covered: Budgeting, saving, safe use of credit, debt and over indebtedness, investing, consumer rights and responsibilities, payment services, insurance, retirement/pensions, basic bank account, generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness. Main target audience: Micro and Small entrepreneurs, employees (of the Ministry), unemployed, trainers. Reach of the initiative: In 2021, the training on the basic bank accounts reached around 700 employees who work with vulnerable people. In 2021, 18 trainers of managers of micro, small and medium-sized enterprises conducted 61 sessions reaching around 3000 managers of MSMEs. The training of trainers from job centres reached around 33 trainers in 2021; the trainers conducted more than 900 sessions reaching more than 5 700 unemployed and other vulnerable groups.

Provider(s) of the initiative	Name of the initiative	Content of the initiative
Directorate-General for Education (in cooperation with the CNSF)	Teacher training courses on contents of Core Competencies for Financial Education	Goals and expected outcomes: These training courses are part of the ongoing teacher training scheme that aims to train teachers to work in an area of knowledge that is often very different from their initial education. The courses have been produced in close coordination with the CNSF. The training sessions also explore behavioural aspects, as the ultimate aim is for young people to learn and develop skills, attitudes and values. The training encourages the sharing of experiences among teachers of different teaching groups who are working on financial education. Delivery channels: The training courses were originally conducted face-to-face (also using printed material). However, they have been partly replaced by online awareness sessions using webinars. Main topics covered: Household budget planning and management, functioning of the financial system, accounts and means of payment, savings (term deposits), shares, bonds and investment funds, insurance and pension fund products, credit and default prevention and management, credit-related insurance, digital finance (generic use of digital financial services, aspects related to personal information/data, digital fraud and scams awareness). Main target audience: Lecturers and teachers. Reach of the initiative: Around 30 participants attend each course.
Dr. António Cupertino de Miranda Foundation (With the support of the *Portugal Inovação Social*, through the European Social Fund, from 2020 to 2022 and in cooperation with the Banco de Portugal, Portuguese Insurers Association and the Faculty of Economics of the University of Porto)	Financial education program: *Eu e a Minha Reforma* ("Me and my retirement")	*Eu e a Minha Reforma* is a training programme that started in 2018 and that targets the population over 55 years old. Goals and expected outcomes: The main goals and objectives of the programme are to: – Promote financial education in the various areas described in the Core Competencies for Financial Education. – Promote a healthy relationship with money, teaching how to plan and manage the emotional aspect of the options. – Build prevention habits in relation to risk situations, alerting to the precautions to be taken in the event of fraud and swindle. – Build skills for using digital financial services, promoting conditions, means and information so that people can benefit from the digital era and understand those benefits and; – Prevent and tackle social exclusion of older people in a society where access to essential financial services is increasingly digital. With this programme, people are expected to learn to live within their means, understand that by managing their budget well they can control their expenses, develop saving habits, learn how to solve every day financial issues and understand how to avoid falling into fraud, digital or otherwise, besides being informed about the importance of insurance and aware of essential insurance products. Format and content: The core activity of the initiative consists of a programme, implemented on an ongoing basis in the form of (online and in-person) Financial Literacy Labs. The contents of the topics covered are made available in physical and digital formats to all participants and explained in a very accessible language, during informal and interactive sessions. All pedagogical materials used were specifically developed for this initiative and have been scientifically reviewed by the Faculty of Economics of the University of Porto. Main target audience: People over 55 years old. Within this group, the programme also targets identified vulnerable groups such as unemployed, people struggling with debt, women and digitally excluded individuals.

Provider(s) of the initiative	Name of the initiative	Content of the initiative
		Delivery channels: The programme is implemented through Financial Literacy Labs in face-to-face and online format (webinar). Mass media are also used to disseminate the existence of the initiative. Digital media (social media and digital newsletter). Main DFS topics covered: Budget planning and management, savings, insurance, basic banking services, credit and indebtedness, financial products, consumers' rights and duties, precautionary habits against fraud; generic use of digital financial services, taxes. Reach of the initiative: Between 2020 and 2022, the aim is to reach 1 200 people. Link: https://www.eueaminhareforma.pt/
Dr. António Cupertino de Miranda Foundation (in cooperation with the Faculty of Economics of the University of Porto)	Financial education programme: *No Poupar Está o Ganho* ("A penny saved is a penny earned")	The *No Poupar está o Ganho* project started in 2010 and is now in its 12th edition. It is a continuous project, implemented in schools throughout the school year, which recognises the importance of financial education from kindergarten education onwards and is aimed at all levels of education. Goals and expected outcomes: The *No Poupar está o Ganho* programme aims to tackle the financial literacy deficit and transmit to children and young people knowledge to develop skills that will enable them, today and in the future, to make informed and responsible financial decisions, also contributing to the improvement of their performance at school, changing attitudes and behaviours towards money management. The project also aims to promote digital empowerment and e-learning. It involves parents, teachers, pupils, businesses, academic institutions, media and policy makers. Format and content: It begins annually with the school year and provides teachers and students with all the pedagogical resources (scientifically reviewed by the Faculty of Economics of the University of Porto) necessary for its implementation. The programme also includes training for teachers and access to an e-learning platform, for both teachers and registered students. The e-learning platform provides all the syllabus (suitable for the different academic years and in accordance with the Core Competencies for Financial Education, approved by the Ministry of Education), online training, didactic sheets (E-Notebook), lesson plans and themed animated films, games, among other resources. Main target audience: Kindergarten children, basic education students, secondary education students Delivery channels: Digital media (teaching platform, website, social networks, digital newsletter). The project has evolved, as of March 2020, into a new fully digital project *No Poupar está o Ganho 4.0*. Main DFS topics covered: The project covers a broad range of financial education topics (financial inclusion, budgeting, saving and investing, safe use of credit insurance, consumer rights etc.). It also covers DFS topics such as aspects related to personal information/data as well as digital fraud and scams awareness. Reach of the initiative: In 2021/22, the initiative covers more than 13 000 students. Over the 12 editions, more than 50 000 students participated. Link: http://facm.pt/facm/facm/pt/servico-educacao/educacao-financeira/No-Poupar-Est--o-Ganho-

Provider(s) of the initiative	Name of the initiative	Content of the initiative
General Secretariat of the Ministry of Labour, Solidarity and Social Security and Banco de Portugal (in cooperation with the CNSF)	Online training - Financial education in the workplace -	The General Secretariat has a partnership with the CNSF to provide financial education to the MTSSS's employees. It promotes financial training in the workplace through the *Todos Contam* e-learning platform with the provision of thematic content of a cross-cutting nature and also on specific topics, directly and indirectly, related to digital financial literacy. Goals and expected outcomes This project aims at promoting financial education in the workplace of all the workers of the different bodies under the MTSSS, which represent a total of 25 000 employees. It is aimed at all professional groups and functions, from senior and middle management to operational assistants. Format and content: The Financial Education in the Workplace course, lasting 8 hours and 15 minutes, is delivered entirely online, using the Moodle platform of the *Todos Contam* website (which includes videos, Powerpoint presentations, leaflets and other materials). It is organised into 5 modules, with contents that are compulsory and others that are optional and complementary to the study, covering the following topics: household budget, deposit accounts and means of payment, saving and investing, credit and insurance. The e-learning platform also provides a tool for evaluating financial knowledge in a Moodle environment (free and open source learning management system). This allows knowledge retention to be assessed via online quizzes at the end of each training module. There was a pilot course with 94 employees, which allowed the financial supervisors to receive feedback and adjust the initiative before rolling it out (for example, reducing the duration of the course and introducing a synchronized session to explain the course and answer any doubts from the participants). Delivery channel: *Todos Contam* e-learning platform Main topics covered: Budgeting, saving, safe use of credit, debt and over indebtedness, investing, consumer rights and responsibilities, payment services, insurance, retirement/pensions, basic bank account, generic use of digital financial services. Main target audience: Employees of the bodies of the MTSSS Reach of the initiative: The six editions carried out until June 2022 involved around 400 participants. Importantly, in many cases, workers of MTSSS have daily contact with important vulnerable groups so they can also work as multipliers of financial education.
Association of Specialised Credit Institutions - ASFAC (In cooperation with the Junior Achievement Portugal)	Education programme "Economy for Success"	The Economy for Success programme is a training programme developed by ASFAC with the support of Junior Achievement Portugal and aimed at 9th grade students aged between 13-15 years. Goals and expected outcomes: The programme provides practical information about personal finance and the importance of identifying education and career goals based on students' interests, values and qualities. Format and content: Content is delivered in 5 sessions in each participating class: – Session 1: Students make choices to understand the concept of self-awareness, focusing on their skills, interests and values. At the same time, they analyse different profession categories which help them to reflect on their future education and career choices; – Session 2: The students learn the importance of a thoughtful decision-making process when it comes to life-changing decisions. Following the analysis of the reflection process, students play a game called *Decide o teu*

Provider(s) of the initiative	Name of the initiative	Content of the initiative
		Percurso ("Decide your Path") in which they choose an educational or career path; – Session 3: Students are given job cards showing average earnings associated with various jobs. They discuss the difference between Net Income and Gross Income. Based on these wages, students assess opportunity costs for personal budgeting decisions; – Session 4: Students look at how consumers pay for goods and services; they discuss the pros and cons of using cash and credit payments and participate in an activity that enhances their understanding of the cost of credit; – Session 5: Students learn that life has risks and that insurance helps to mitigate financial consequences of risks. Different types of insurance are addressed through a clue game with true cases. ASFAC also aims to develop a nationwide digital competition to empower young people in financial education. The competition will be held online and aims to reach around 500 students in the 9th grade, throughout the country, who are participating in the Economics for Success programme. Main target audience: Basic education students (13-15 years). Delivery channels: Printed material, face-to-face. Main DFS topics covered: Financial inclusion, budgeting, saving, safe use of credit, debt and over indebtedness, payment services, insurance, generic use of digital financial services Reach of the initiative: Between 500 and 550 students. Link: http://www.japortugal.org/educacao/ensino-basico/904-economia-para-o-sucesso.html
Association of Specialised Credit Institutions – ASFAC (in cooperation with Pressley Ridge)	Training programme: COOL.BRAVE – *juntos criamos mudança* ("together we create change")	*COOL.BRAVE – juntos criamos mudança* is a project developed by ASFAC with the support of Pressley Ridge Portugal. The programme focuses on promoting individual growth and self-knowledge for children and young people aged 6 to 25. Goals and expected outcomes: The goals are to develop and work with children, young people and families living in a deprived neighbourhood in the municipality of Amadora, to provide training for the project's mediators and trainers and to assess its implementation. The purpose of this initiative is to provide support for the personal development of young adults in this area (especially for the most vulnerable social groups), by encouraging the building of a healthy relationship with money, and by stimulating their ability to manage money thoughtfully and wisely. Main target audience: Basic education students, secondary education students, young people who have dropped out of school, women, unemployed. Delivery channels: Face-to-face. Main DFS topics covered: Financial inclusion, budgeting, saving, safe use of credit, debt and over indebtedness, generic use of digital financial services. Reach of the initiative: Between 100 and 140 people. Link: https://www.pressleyridge.pt/pt/pages/coolbrave-e8g
Portuguese Association for	Educational programme:	*DECO Jovem* is a consumer education programme promoted by DECO, aimed at schools. Participating schools may adhere to the programme and benefit from

Provider(s) of the initiative	Name of the initiative	Content of the initiative
the Defense of consumers - DECO	*DECO Jovem*	the support of DECO and join various initiatives. *DECO Jovem* now involves 3 502 schools and, every year, on average, more than 25 000 students and teachers in various activities and projects promoting consumer education at school. Goals and expected outcomes: *DECO Jovem* aims at promoting consumer education in its educational community, contributing to the strengthening of skills to build informed, aware and confident consumers. Format and content: As part of the programme, DECO runs several information sessions ("consumer talks") in the participating schools. Among different topics, financial literacy is the topic most frequently requested by schools for information sessions. For example, the information session *ABC da Poupança* ("ABC of savings") aims at alerting and raising awareness among young people of the importance of knowing how to manage and save money. Following (growing) requests, some informative sessions have also covered the topic of crypto assets. As part of the programme, DECO developed the website *Gerir e Poupar* ("Managing and Saving"), which provides content in a fun and attractive way through YouTube videos[66] to help schools and families to develop and improve the financial skills of the youngest. DECO also takes part in the Global Money Week. In 2021, together with an online campaign on social media (Instagram, Facebook), five online open classes were held and gathered more than 600 students to discuss the importance of taking care of money. As part of the *Semana da Formação Financeira* ("Financial Education Week"), *DECO Jovem* held a webinar on accounts and savings for young consumers as well as several digital workshops on online banking. Delivery channels: Face-to-face, digital media (social networks –Facebook, Instagram, YouTube-, website, webinars) Main topics covered: Budget, savings, responsible use of credit, indebtedness and over-indebtedness, investment, consumer rights and duties, payment services, insurance, generic use of DFS, crypto assets Main target audience: Young consumers, secondary education students, teachers. Reach of the initiative: In 2021 in total, 146 informative sessions ("consumer talks") on the topic of financial literacy were held, reaching 4 165 secondary education students and 237 teachers. The webinar on accounts and savings reached 250 students and 24 teachers in 10 schools. In 2022, 173 informative sessions on financial literacy were held. Link: https://decojovem.pt/
Portuguese Association for the Defense of consumers - DECO	Educational/training programme: *DECO Forma*	*DECO Forma* is a training project for qualification and training in the area of consumer rights and interests, launched in 2015. Currently, this project proposes different types of activities such as training sessions, workshops and informative sessions. DECO carries out information and training initiatives addressed to different audiences to improve their overall financial education, including digital financial literacy issues. Goals and expected outcomes: Among the numerous goals of the initiatives contributing to the strengthening of skills to build informed, aware and confident consumers, *DECO Forma* holds information sessions and workshops with the aim of sharing information, advice and useful tools that can contribute to better financial planning, better daily management of consumption and a greater ability to make informed and sustainable financial decisions.

Provider(s) of the initiative	Name of the initiative	Content of the initiative
		Format and content: As part of the programme, in 2021 *DECO Forma* held 14 face-to-face training sessions on "Personal Finance in Time of Crisis" and 5 digital sessions (available on MOOCs[67] together with live views on social networks) were also organised on the same theme. *DECO Forma* also organised in-person information sessions (22 in 2021) with the various partners in DECO's network, from local authorities (such as municipalities and regional public companies) to the various associations providing social support to the most vulnerable consumers. Topics covered in these sessions include consumer online rights and personal finance, among others. *DECO Forma* has also promoted a training session[68] for its partners' experts about Digital Rights for Consumers. *DECO Forma* also disseminated an informational video through social media accounts and regular media about the growing number of scams and different scamming practices related to fake credit intermediaries. Finally, DECO Forma provides informative videos[69] and a practical guide for families with the objective of improving financial knowledge and behaviours[70]. Main target audience: Adults and professionals, trainers in DECO partners' network (municipalities, enterprises and other organisations), vulnerable consumers. Main topics covered: Budget, savings, responsible use of credit, indebtedness and over-indebtedness, investment, consumer rights and duties, payment services, general use of DFS, raising awareness of digital fraud and scams, cyber security/cyber risks Delivery channels: Printed material (practical guide), face-to-face, mass media, website, digital channel (webinars/MOOCs, social media -YouTube, LinkedIn, Facebook podcasts) Reach of the initiative: The various information sessions involved 500 consumers. The face-to-face training sessions on "Personal Finance in Time of Crisis" reached more than 200 participants while the 5 digital sessions reached 150 participants and 3 500 live views on social media. Link: http://decoforma.pt/

Note: Total number of initiatives: 10
Source: Stocktaking survey on existing digital financial education activities in Portugal, workshop, bilateral exchanges and desk research.

Annex E. Questionnaire of the digital financial literacy survey

Socio-demographic information

A.1 What is your gender?

[NOTE: To be filled out by the interviewer]:

☐ Male

☐ Female

→ *Go to A.2*

A.2 What is your age?

[*NOTE: The interviewer should estimate if the respondent does not wish to reply*]

Response: ___ years

→ *Go to A.3*

A.3 What's the size of the town where you currently live?

[*NOTE: To be filled out by the interviewer]:*

Size of the town

Up to 4999 inhabitants	☐
From 5000 to 9999 inhabitants	☐
From 10 000 to 49 999 inhabitants	☐
From 50 000 to 99 999 inhabitants	☐
100 000 or more inhabitants	☐

→ *Go to A.4*

A.4 Region

[*NOTE: To be filled out by the interviewer]:*

North	☐
Centre	☐
Lisbon	☐
Alentejo	☐
Algarve	☐
Autonomous Region of Madeira	☐
Autonomous Region of Azores	☐

→ *Go to A.5*

A.5 What is the highest level of education that you have completed?

No education or no completion of the 1st stage of basic education	☐
1st stage of basic education (primary school)	☐
3rd stage of basic education (middle school)	☐
Secondary education (high school)	☐
Higher education (university, including master or PhD)	☐
Do not reply [*don't read – survey ends]*	☐

→ *Go to A.6*

A.6 Which of these situations best describe your work situation?

Active/Employed - Self-employed [work for yourself]	☐
Active/Employed - In paid employment [work for someone else]	☐
Active/Employed - Apprentice	☐
Active/Unemployed - Looking for work [unemployed]	☐
Non-active - Student	☐

Non-active/Other - Looking after the home	☐
Non-active/Other - Retired	☐
Non-active/Other - Unable to work due to sickness or ill-health	☐
Non-active/Other - Not working and not looking for work	☐
Other (please specify)	☐
Does not reply *[don't read – survey ends]*	☐

→ *Go to B.1*

Access to and effective use of Information and Communication Technologies

B.1 **Do you use the Internet?**

Yes	☐ → Go to B.3
No	☐ → Go to B.2
Do not reply [don't read]	☐ [survey ends]

B.2 [*Only if reply "no" in B.1*] **What is/are the reason(s) why you do not use the Internet?**

Tick all that apply

I do not have Internet coverage where I live	☐
I cannot afford the subscription to the Internet	☐
I cannot afford the equipment to use the Internet	☐
I do not want it	☐
I do not need it	☐
I do not have time to use it	☐
It is too complicated to use	☐
It is not safe	☐
Other reason (please specify)	☐

Do not reply [don't read]	☐

→ *Go to B.4.1 and B.4.4, then F.1 and F.2*

B.3 [*Only if reply "yes" in B.1]* **On what device(s) do you access and use the Internet?**

Tick all that apply

Desktop computer	☐
Laptop	☐
Mobile phone/Smartphone (e.g. iPhone)	☐
Tablet (e.g. iPad)	☐
Other device (including smart TV, smart speakers, game console, e-book reader, smart watch etc.)	☐
Do not reply [Don't read]	☐

→ *Go to B.4*

B.4 How often do you do the following?

	Very often	Often	Sometimes	Rarely	Never	Do not know or Do not reply [don't read]
1. Making calls using a mobile phone	☐	☐	☐	☐	☐	☐
2. Searching for information online	☐	☐	☐	☐	☐	☐
3. Sending/receiving e-mails	☐	☐	☐	☐	☐	☐
4. Using a computer/laptop to write or organize documents	☐	☐	☐	☐	☐	☐
5. Sending/receiving instant messages (e.g. via WhatsApp, Messenger, Skype, Telegram, Signal, Viber, Snapchat, Instagram, etc.)	☐	☐	☐	☐	☐	☐
6. Making calls or video calls over the Internet (e.g. via WhatsApp, Messenger, Skype, Facetime, Viber, Snapchat, Instagram, etc.)	☐	☐	☐	☐	☐	☐

7. Participating in social networks, reading or posting messages/photos (e.g. Facebook, Twitter, Instagram, LinkedIn, Snapchat, TikTok, etc.)	☐	☐	☐	☐	☐	☐
8. Reading online news / newspapers / magazines	☐	☐	☐	☐	☐	☐
9. Buying goods or services from online shops using a mobile phone /tablet (e.g. Amazon, Booking, Continente, Auchan, Worten, FNAC, clothing stores)	☐	☐	☐	☐	☐ → Go to C.2 (if also below)	☐ → Go to C.5 (if also below)
10. Buying goods or services from online shops using a computer/laptop (e.g. Amazon, Booking, Continente, Auchan, Worten, FNAC, clothing stores)	☐	☐	☐	☐	☐ → Go to C.2 (if also above)	☐ → Go to C.5 (if also above)
11. Buying or selling goods from other individuals through online platforms using a mobile phone/ tablet (e.g. Olx, Custojusto etc.)	☐	☐	☐	☐	☐	☐
12. Buying or selling goods from other individuals through online platforms using a computer/laptop (e.g. Olx, Custojusto, etc.)	☐	☐	☐	☐	☐	☐
13. Comparing prices of goods and services online	☐	☐	☐	☐	☐	☐
14. Undertaking administrative tasks online (e.g. paying taxes, applying for public benefits, dealing with the public administration, etc.)	☐	☐	☐	☐	☐	☐

→ Go to C.1. If tick "never" in B.4.9 and B.4.10, go to C.2, If tick "Do not know or Do not reply" in B.4.9 and B.4.10, go to C.5

Shopping online and use of Digital Financial Services (DFS)

Shopping online

C.1 *[ask only if reply "Very often", "Often", "Sometimes" or "Rarely" in B.4.9 and/or B.4.10]* **When you bought goods and services online recently, what means of payment did you use?**

Tick all that apply

1. Credit card	☐
2. Debit card	☐
3. Virtual cards (Mbnet cards)	☐
4. MBWay	☐
5. Multibanco reference	☐
6. Pre-paid card	☐
7. Bank transfer	☐
8. E-wallet (Apple Pay, Google Pay etc.)	☐
9. Paypal	☐
10. Revolut card	☐
11. Cryptocurency (e.g.Bitcoin, Ethereum etc.)	☐
12. “Buy now pay later” products (for.e.g as Klarna or Cofidis Pay)	☐
13. Other (please specify which ones)	☐
14. Do not know or do not reply [Don’t read]	☐

→ *Go to C.3*

C.2 *[If “never” in B.4.9 and B.4.10]* **What is the main reason for not shopping online?**

Tick one

I do not go online regularly	☐
I have difficulty in dealing with technology	☐
I do not know how to pay online	☐
I prefer to shop in person, see and touch the product	☐
I do not have a personal contact to clarify my doubts about the product and the buying process	☐

I do not trust online shops (delivery, returns, complaints etc.)	☐
I am concerned with payment security	☐
I am concerned with sharing my personal data	☐
I am concerned about the costs of the delivery of goods	☐
I do not know the applicable legislation	☐
I have been victim of fraud when shopping online	☐
I don't have a bank account	☐
Other (please specify)	☐
Do not know or do not reply [Don't read]	☐

→ Go to C.5

C.3 When shopping online, how frequently do you do the following procedures?

	Very often	Often	Sometimes	Rarely	Never	Do not know or do not reply [don't read]
I check if the website is secure before buying something online (e.g. https, safety lock, etc)	☐	☐	☐	☐	☐	☐
I check the reliability of the seller before buying something online	☐	☐	☐	☐	☐	☐
After buying something online, I check my account to see if the debits correspond to the purchase(s) I made	☐	☐	☐	☐	☐	☐

→ Go to C.4

C.4 *[Only if tick at least one answer in C.1.1, C.1.2, C.1.3, C.1.6 and/or C.1.10]* **Please indicate which of the following safety procedures you are using when paying with a card online.**

Tick all that apply

I validate the payment by using a one-time password received through a text message	☐

I validate the payment by using a password or pin code	☐
I validate the payment by using my fingerprint	☐
I validate the payment by using facial recognition	☐
Other (please specify)	☐
Do not reply [don't read]	☐

→ *Go to C.5*

Home banking

C.5 *[Only if reply "yes" in B.1]* **Banks provide access to accounts and other banking products and services via digital channels, for example through home banking (website) or mobile banking applications (apps). Which one do you use?**

Tick one

1. I use both (home banking websites and banking apps)	☐→ Go to C.7.1 and C.7.2
2. I use only home banking websites	☐→ Go to C.7.1
3. I use only mobile banking applications (apps)	☐→ Go to C.7.2
4. I have a bank account, but I don't use any of the options	☐ → Go to C.6
5. I do not have a bank account	☐ → Go to D.1
6. Do not reply [Don't read]	☐→ Go to D.1

C.6 *[Only if tick C.5.4]* **What is the <u>main</u> reason why you do not use digital channels made available by banks?**

Tick one

I do not go online regularly	☐
I have difficulty in dealing with technology	☐

I don't have the appropriate financial knowledge	☐
I prefer personal contact/branch	☐
I prefer to use a physical ATM	☐
I don't think it is safe	☐
I am concerned with sharing my personal data	☐
I do not know the applicable legislation	☐
I was victim of fraud when attempting to do so	☐
Other (please specify)	☐
Do not know or do not reply [Don't read]	☐

→ *Go to C.10*

C.7 *[if tick C.5.1, C.5.2 or C.5.3]* **On average, how often do you use home banking websites or apps?**

	Almost daily	At least once a week	At least once every two weeks	At least once a month	Less than once a month	Do not know or do not reply [don't read]
1. Home banking websites [read only if tick C.5.1 or C.5.2]	☐	☐	☐	☐	☐	☐
2. Mobile banking applications of your institution (apps) [read only if tick C.5.1 or C.5.3]	☐	☐	☐	☐	☐	☐

→ *Go to C.8*

C.8 Which services did you use through digital channels in the last 2 years (i.e. since the Covid-19 pandemic started at the beginning of 2020)?

Tick all that apply

	Home banking website [read only if tick C.5.1 or C.5.2]	Mobile banking app [read only if tick C.5.1 or C.5.3]
Checking account movements and balance	☐	☐
Charging a pre-paid card	☐	☐
Paying services	☐	☐
Transferring money	☐	☐
Taking out a time deposit	☐	☐
Subscribing to insurance policies	☐	☐
Subscribing to a pension plan (PPR)	☐	☐
Investing in bonds, shares or investment funds	☐	☐
Taking out mortgage credit	☐	☐
Taking out consumer credit	☐	☐
Creating virtual Mbnet cards	☐	☐

→ Go to C.9

C.9 When using your home banking website/mobile banking app, how frequently do you do the following procedures?

	Very often	Often	Sometimes	Rarely	Never	Do not know or do not reply [don't read]
I log off from my account on the home banking (website) or mobile banking application	☐	☐	☐	☐	☐	☐
I change my passwords to access home banking/mobile banking apps	☐	☐	☐	☐	☐	☐

→ Go to C.10

C.10 How do you receive your bank statements?

Tick all that apply

Letter on paper	☐
Email	☐
Homebanking website	☐
Mobile banking app	☐
Do not know or do not reply [Don't read]	☐

→ *Go to C.11*

Awareness and use of other digital financial products and services

C.11 How often have you used or contracted the following products/services in the past 2 years (i.e. since the Covid-19 pandemic started at the beginning of 2020)?

	Very often	Often	Sometimes	Rarely	I have heard of this product/service but I have never used it or contracted it	I have never heard of this product/service	Do not reply [don't read]
1. MBWay	☐	☐	☐	☐	☐	☐	☐
2. E-wallet for making payments (e.g. Apple Pay, Google Pay)	☐	☐	☐	☐	☐	☐	☐
3. Digital services for transferring money other than homebanking (e.g. Paypal, Revolut, etc)	☐	☐	☐	☐	☐	☐	☐
4. Smartwatch for making payments	☐	☐	☐	☐	☐	☐	☐
5. Crowd-funding (e.g. Raize)	☐	☐	☐	☐	☐	☐	☐
6. Crypto-assets (e.g. Bitcoin, Ethereum)	☐ → Go to C.12	☐ → Go to C.12	☐ → Go to C.12	☐ → Go to C.12	☐	☐	☐
7. Online platform or app that aggregates several bank accounts	☐	☐	☐	☐	☐	☐	☐

and payment services (e.g. Dabox, Unido)							
8. Payment initiation services	☐	☐	☐	☐	☐	☐	☐
9. Online trading platforms (e.g. etoro, degiro, etc)	☐	☐	☐	☐	☐	☐	☐
10. Automated investment services (robo-advice)	☐	☐	☐	☐	☐	☐	☐
11. Online comparison tools for financial products (credit, insurance etc.)	☐	☐	☐	☐	☐	☐	☐
12. Digital budgeting tools	☐	☐	☐	☐	☐	☐	☐

→ [if tick "very often", "often", "sometimes" or "rarely" in C.11.6 go to C.12, otherwise go to C.13; if in all questions the following answers are ticked: "I have heard of this product/service, but I have never used it or contracted it" and/or "I have never heard of this product/service" and/or "Do not reply", go to C.14]

C.12 *[if tick "Very often", "Often", "Sometimes" or "Rarely" in C.11.6]* **How did you buy or sell your crypto-assets?**

I bought them at a dedicated kiosk (e.g. an ATM-like machine)	☐
I bought them on an online platform (e.g. Coinbase, Binance, OKX)	☐
I mined them	☐
I received them in payment for goods or services	☐
They were transferred to me from family or friends	☐
Other (please specify)	☐
Do not know or do not reply [Don't read]	☐

→ Go to C.13

C.13 *[for each row in C.11, ask if tick "Very often", "Often", "Sometimes", "Often" or "Rarely"]* **Did you use or contract any of the following products/services before the Covid-19 pandemic started in beginning 2020?**

	Yes	No	Do not reply [Don't read]
MBWay	☐	☐	☐
E-wallet for making payments (e.g. Apple Pay, Google Pay)	☐	☐	☐
Digital services for transferring money other than homebanking (e.g. Paypal, Revolut, etc)	☐	☐	☐
Smartwatch for making payments	☐	☐	☐
Crowd-funding (e.g. Raize)	☐	☐	☐
Crypto-assets (e.g. Bitcoin, Ethereum)	☐	☐	☐
Online platform or app that aggregates several bank accounts and payment services (e.g. Dabox, Unido)	☐	☐	☐
Payment initiation services	☐	☐	☐
Online trading platforms (e.g. etoro, degiro, etc)	☐	☐	☐
Automated investment services (robo-advice)	☐	☐	☐
Online comparison tools for financial products (credit, insurance etc.)	☐	☐	☐
Digital budgeting tools	☐	☐	☐

→ Go to C.14

C.14 Have you ever done any of the following through a website or app <u>that is not your home banking or mobile banking app</u>?

	Yes	No	Do not know or do not reply [Don't read]
1. I opened a current account completely online	☐ →Go to C.15	☐	☐
2. I subscribed a credit card completely online	☐	☐	☐
3. I subscribed to an insurance policy completely online	☐	☐	☐
4. I have taken out consumer credit completely online	☐	☐	☐

5. I have taken out mortgage credit completely online	☐	☐	☐
6. I subscribed to a pension plan (PPR) completely online	☐	☐	☐

→ *If tick "yes" to C.14.1, go to C.15, otherwise go to D.1*

C.15 *[If "yes" in C.14.1]* **You said that you have opened a current account completely online, could you specify if such an account was opened in a fully digital bank (e.g. Openbank, N26, etc.)?**

Yes	☐
No	☐
Do not reply [don't read]	☐

→ *Go to D.1*

Safe use of digital financial services and data protection

Basic safety procedures online

D.1 For each statement on the use of the Internet, could you let me know whether it describes your situation "completely", "very well", "somewhat", "very little" or "not at all".

	Completely	Very well	Somewhat	Very little	Not at all	Do not know or do not reply or not applicable [don't read]
I create strong passwords (e.g. in terms of length, use of different characters, etc.)	☐	☐	☐	☐	☐	☐
I regularly change my smartphone/ computer access passwords	☐	☐	☐	☐	☐	☐
I use different passwords for different financial and non-financial accounts (e.g. homebanking, e-mail, social media, e-commerce accounts, etc)	☐	☐	☐	☐	☐	☐
I regularly change the passwords on websites that I use for online shopping and personal finances	☐	☐	☐	☐	☐	☐

I allow my browser to save my passwords for different financial and non-financial accounts	☐	☐	☐	☐	☐	☐
I update the software on my smartphone (e.g. iOS or Android updates) when new updates become available	☐	☐	☐	☐	☐	☐
I use anti-virus and anti-spyware software and keep these up-to-date on my laptop/computer	☐	☐	☐	☐	☐	☐

→ Go to D.2

D.2 For each statement could you tell me whether it applies to you "very often", "often", "sometimes", "rarely" or "never".

	Very often	Often	Sometimes	Rarely	Never	Do not know or do not reply or not applicable [don't read]
I share my passwords with my friends	☐	☐	☐	☐	☐	☐
I share my passwords with my close family members	☐	☐	☐	☐	☐	☐
I use Public Wi-Fi networks (e.g. in airports, cafés, hotels, shopping malls etc.)	☐	☐	☐	☐	☐	☐
I access personal information (e.g. email, social media) on public computers.	☐	☐	☐	☐	☐	☐
I leave my smartphone unattended	☐	☐	☐	☐	☐	☐
I check the access permissions of the apps I install	☐	☐	☐	☐	☐	☐
When I install mobile applications (apps), I verify that it is from a trustworthy source.	☐	☐	☐	☐	☐	☐
I click on links or attachments from unexpected e-mails or messages	☐	☐	☐	☐	☐	☐
I provide personal information (e.g. passwords, credentials) over e-mail, message or phone calls	☐	☐	☐	☐	☐	☐

→ Go to D.3

Protection of personal data

D.3 For each statement about procedures when using the Internet, could you tell whether they describe your situation "completely", "very well", "somewhat", "very little" or "not at all". *Please note that personal data can include name, date of birth, identity card number, contact details, credit card number, geographical location.*

	Completely	Very well	Somewhat	Very little	Not at all	Do not know or do not reply or not applicable [Don't read]
I carefully read privacy policy statements before providing personal data	☐	☐	☐	☐	☐	☐
I limit or refuse access to my geographical location (e.g. on apps, websites, phone)	☐	☐	☐	☐	☐	☐
[Ask if not "never" or "do not know/do not reply" in B.4.7] I limit access to my profile or content on social networks	☐	☐	☐	☐	☐	☐
[Ask if not "never" or "do not know/do not reply" in B.4.7] I share my personal data on social networks (e.g. date of birth, address, phone number)	☐	☐	☐	☐	☐	☐
I share information about my finances online (e.g. on social media)	☐	☐	☐	☐	☐	☐
I allow the use of personal data for advertising purposes	☐	☐	☐	☐	☐	☐
I ask websites administrators or providers to delete my personal data when I no longer plan to use the website	☐	☐	☐	☐	☐	☐

→ *Go to D.4*

Safe use of Digital Financial Services

D.4 Where do you look for information on the safe use of digital financial services?

Tick all that apply

Traditional media (e.g. TV, radio, press, etc.)	☐
Website of the financial institution (bank, insurance etc.)	☐
Website of public authorities (e.g. website of Banco de Portugal, CMVM, ASF, Centro Nacional de Cibersegurança, Comissão Nacional de Proteção de Dados etc.)	☐
Family members, friends etc.	☐
Social media	☐
I have never looked for information on the the safe use of digital financial services	☐
Other (please specify)	☐
Do not know or do not reply or does not apply [don't read]	☐

→ *Go to D.5*

D.5 In the last 2 years (i.e. since the Covid-19 pandemic started in beginning 2020), have you experienced any of the following issues?

	Yes → Go to D.6 in case at least one "yes"	No → Go to E.1 in case "no" for all statements	Do not know or do not reply [don't read]
I have accidently provided personal financial information (such as passwords or card number) in response to a phone call, an email or a message (e.g. text message, a social media message) that I later found out was not genuine	☐	☐	☐
I have lost money as a result of hacking or phishing scams	☐	☐	☐
[Ask if tick C.5.1, C.5.2 or C.5.3] I have been victim of fraud when using my home banking/mobile banking app	☐	☐	☐
[Ask if not replying "never" or "does not know/reply" in B.4.9 and B.4.10] I have been victim of fraud when shopping online	☐	☐	☐
My credit/debit card was used in a fraudulent way	☐	☐	☐
I have taken credit from an entity that I found later was not an authorised entity.	☐	☐	☐

I have accepted advice to invest in an online financial product that I later found to be a scam	☐	☐	☐

→ Go to D.6 in case at least one "yes" in D.5. If "no" to all statements in D.5, go to E.1.

D.6 *[In case "yes" to any item under D.5]* **Did you report about the fraud/scam you were a victim of?**

Yes	☐ →Go to D.7
No	☐ →Go to D.8
Do not reply [don't read]	☐→Go to E.1

D.7 *[In case "yes" to D.6]* **To what authority/institution did you report it?**

Tick all that apply

The financial institution (bank, insurance etc.)	☐
The police	☐
A consumer association (e.g. DECO)	☐
Financial supervisor (Banco de Portugal, CMVM, ASF)	☐
Other consumer protection authority (e.g. Comissão Nacional de Proteção de Dados, Direção-Geral do Consumidor)	☐
Other. Which?	☐
Do not reply [don't read]	☐

→ Go to E.1

D.8 *[In case "no" to D.6]* **What was the <u>main</u> reason for not reporting it?**

I did not know whom to report to	☐
I felt it would not make a difference	☐
I did not have time	☐
I did not suffer a big loss	☐

I was embarrassed	☐
I don't know why (no specific reason)	☐
Other (please specify)	☐
Do not reply [Don't read]	☐

→ *Go to E.1*

Digital financial knowledge, attitudes and behaviours

Knowledge about digital financial services

E.1 [*Ask only if reply yes to B.1*] **Please tell me whether you think that these statements are true or false.**

	True	False	Do not know or do not reply [Don't read]
Phishing and pharming are common types of online scams	☐	☐	☐
Strong customer authentication consists of two-factor authentication to secure online payments	☐	☐	☐
It is possible to make payments and transfers using online/mobile banking	☐	☐	☐
Personal data from social media or other sources can be used to target users with personalised financial offers	☐	☐	☐
It is possible to cancel an online purchase made in the European Union within two weeks.	☐	☐	☐
A digital contract requires signature of a paper contract to be considered valid	☐	☐	☐
All financial services providers that I can find on the internet are regulated by the financial authorities of my jurisdiction			
Not paying back a loan subscribed online affects a borrower's ability to obtain other credit online, but will not affect his/her ability to obtain credit at the branch of a financial institution	☐	☐	☐
Buying a financial product at the bank's branch or the bank's website entails the same level of legal protection	☐	☐	☐

Financial institutions can use a wide range of non-financial personal data, including from social media, in decisions about granting credit or insurance	☐	☐	☐
The price of a good sold online on a given website will remain the same irrespective of the location or device from where I make the purchase or browsing history	☐	☐	☐
Crypto-assets (such as Bitcoin or Ethereum) have the same legal tender as notes and coins	☐	☐	☐
It is not possible to lose money when investing in crypto- assets	☐	☐	☐
The Government regulates crypto-assets	☐	☐	☐

→ *Go to E.2*

Attitudes towards DFS

E.2 [*Ask only if have ever used any of the items in C.11 and/or C.14, and/or if reply "Very often", "Often", "Sometimes" or "Rarely" in B.4.9 and/or B.4.10, and/or if use of home banking/mobile app (tick C.5.1, C.5.2 or C.5.3)]* **How much do you agree with the following statements (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree)?**

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Do not know or do not reply or not applicable [Don't read]
I think it is important to read the terms and conditions when buying something online	☐	☐	☐	☐	☐	☐
I think that it is safe to shop online using public Wi-Fi networks (e.g. in cafés, airports, shopping malls)	☐	☐	☐	☐	☐	☐
I think it is important to pay attention to the security of a website before making a transaction online (e.g. https sites, safety lock)	☐	☐	☐	☐	☐	☐
I am happy that my bank is digitalising traditional products and services	☐	☐	☐	☐	☐	☐
Accounts that can be managed digitally facilitate the management of my personal finances	☐	☐	☐	☐	☐	☐
I trust the online financial services provided by financial institutions	☐	☐	☐	☐	☐	☐
[ask if the option "Taking out consumer credit" in C.8 is selected, and/or "I subscribed a credit card	☐	☐	☐	☐	☐	☐

completely online" and/or "I have taken out consumer credit completely online" in C.14 is selected] I take out credit more carefully when going to an institution's branch than when the process is online						
[Ask if reply "Very often", "Often", "Sometimes" or "Rarely" in B.4.9 and/or B.4.10] I find it easier to know how much I spent when I pay by cash than when I pay online	☐	☐	☐	☐	☐	☐
[Ask if reply "Very often", "Often", "Sometimes" or "Rarely" in B.4.9 and/or B.4.10] I feel that I am making more impulsive purchases when I buy online than when I buy in a shop in person	☐	☐	☐	☐	☐	☐
I pay more attention to being safe online when I am using a computer than when I use my mobile phone	☐	☐	☐	☐	☐	☐
It is more likely that I would read the terms and conditions of a contract if I have it on paper than online	☐	☐	☐	☐	☐	☐
I am confident that I can take the necessary steps when/if I am confronted with suspicious requests for information or actions (block credit card, inform authorities, etc…)	☐	☐	☐	☐	☐	☐
Crypto-assets are more valuable as an investment than a means of payment	☐	☐	☐	☐	☐	☐
Crypto-assets can easily be converted into cash	☐	☐	☐	☐	☐	☐
Crypto-assets facilitate illegal activities	☐	☐	☐	☐	☐	☐

Behaviours linked to DFS

E.3 *[ask only if have ever used any of the items in C.11 and/or C.14, and/or if reply "Very often", "Often", "Sometimes" or "Rarely" in B.4.9 and/or B.4.10, and/or if use of home banking/mobile app (tick C.5.1, C.5.2 or C.5.3)].* **How well do these statements describe your situation (completely, very well, somewhat, very little or not at all)?**

	Completely	Very well	Somewhat	Very little	Not at all	Do not reply or not applicable [Don't read]
When using a financial product or service online, I read information and disclosure documents	☐	☐	☐	☐	☐	☐
Before buying a financial product online I check if the financial institution is regulated and authorised in my country	☐	☐	☐	☐	☐	☐
I know how to contact providers of financial products or services available online	☐	☐	☐	☐	☐	☐
I know the relevant bodies where a complaint about financial products and services sold online can be deposited	☐	☐	☐	☐	☐	☐
I know where to get information about frequent financial online scams and fraud	☐	☐	☐	☐	☐	☐

F. Final questions

F.1 What is the size of your household?

Number of children (age 0-17) (including yourself):

Number of adults (age 18 and above) (including yourself):

Do not reply/do not know [*Don't read*]:

F.2 And finally, could you tell me which of these categories your household net monthly income usually falls into (including salaries, pensions and other social benefits, rents, income of financial applications received by all the members of the household)?

No income	☐
Up to 500 €	☐
Between 501 and 1000 €	☐
Between 1001 and 2500 €	☐

Between 2501 and 3500 €	☐
Between 3501 and 5000 €	☐
Over 5000 €	☐
Do not reply/ do not know [Don't read]	☐

Annex F. Tables

Annex Table 1. Socio-economic characteristics of respondents

Panel A – Gender and age groups

	Men	Women	TOTAL	*In %*
Under 25 years	77	80	157	*10%*
25 to 39 years	145	140	285	*19%*
40 to 54 years	169	223	392	*26%*
55 to 69 years	171	205	376	*25%*
70 years or over	157	149	306	*20%*
TOTAL	719	797	1 516	*100%*
In %	*47%*	*53%*	*100%*	

Panel B – Highest level of education completed and city size

	Under 5 000 inhabitants	5 000 to under 10 000 inhabitants	10 000 to under 50 000 inhabitants	50 000 to under 100 000 inhabitants	100 000 or more inhabitants	TOTAL	*In %*
No education	37	1	1	4	14	57	*4%*
1st stage of basic education (primary school)	279	30	36	19	44	408	*27%*
3rd stage of basic education (middle school)	149	31	58	18	30	286	*19%*
Secondary education (high school)	152	49	104	42	54	401	*26%*
Higher education	95	39	97	54	79	364	*24%*
TOTAL	712	150	296	137	221	1 516	*100%*
In %	*47%*	*10%*	*20%*	*9%*	*15%*	*100%*	

Panel C – Employment status and region

	Alentejo	Algarve	Azores	Centre	Lisbon	Madeira	North	TOTAL	*In %*
In paid employment	55	36	14	122	168	26	208	629	41%
Self-employed	10	4	2	39	62	3	43	163	11%
Active unemployed	1	6	5	14	18	2	43	89	6%
Looking after the home	2	5	3	8	6	1	20	45	3%
Retired	30	3	2	118	106	0	160	419	28%

On sick or disability leave	1	3	5	10	12	2	14	47	3%
Student	6	8	3	18	29	6	30	100	7%
Not working and not looking for work	1	0	1	3	5	0	14	24	2%
TOTAL	106	65	35	332	406	40	532	1 516	*100%*
In %	*7%*	*4%*	*2%*	*22%*	*27%*	*3%*	*35%*	*100%*	

Panel D – Monthly household income

	Number of respondents	*In %*
Up to EUR 500	118	*8%*
EUR 501 to EUR 1 000	386	*25%*
EUR 1 001 to EUR 2 500	491	*32%*
EUR 2 501 to EUR 3 500	151	*10%*
Over EUR 3 500	58	*4%*
No response	312	*21%*
TOTAL	1 516	*100%*

Note: On work status, apprentices were reclassified as "In paid employment" as there were only six observations for this sub-group. Respondents having responded "Other" to work status were reclassified as follows: a carpenter and gig worker ("Biscates") were reclassified as "Self-employed"; a seasonal agricultural worker and a professor were reclassified as "In paid employment"; two informal care takers were reclassified as "Looking after the home"; two people waiting for pension were reclassified as "Not working and not looking for work"; and a person on sick leave ("Baixa") was reclassified as "On sick or disability leave". On monthly household income, five respondents with no income were included in the "Up to EUR 500" group, and the "Over EUR 5 000" category was merged with the "EUR 3 501 to EUR 5 000" category, as there were only 21 observations in the highest income group.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Annex Table 2. Factors associated with the variation of the scores on Digital use, Online safety, and Digital financial literacy (and its components)

Results from a multivariate analysis (linear regression). Regression coefficients

	Digital use score	Online safety score	Digital financial knowledge	Digital financial behaviour	Digital financial attitudes	Digital financial literacy
Male	-0.639	2.078	9.840***	4.182*	-0.347	6.671***
	(1.01)	(1.07)	(1.41)	(1.84)	(1.91)	(1.22)
Aged 25 to 39	2.656	3.501	-1.744	1.9	-3.742	-0.902
	(1.89)	(2.01)	(2.46)	(3.20)	(3.32)	(2.12)
Aged 40 to 54	-5.465**	2.111	-2.247	2.205	-3.84	-1.061
	(1.83)	(1.94)	(2.45)	(3.19)	(3.31)	(2.11)
Aged 55 to 69	-15.558***	-4.198*	-6.500*	-8.826**	-6.256	-6.884**
	(1.84)	(1.95)	(2.61)	(3.40)	(3.53)	(2.25)
Aged 70 and over	-19.219***	-8.265***	-8.096*	-11.598*	2.561	-8.055*
	(2.33)	(2.47)	(3.81)	(4.96)	(5.14)	(3.29)
Middle education	10.196***	5.245**	13.117***	9.000*	15.069**	12.477***
	(1.79)	(1.90)	(3.45)	(4.50)	(4.66)	(2.98)
Highschool education	19.224***	11.177***	17.877***	13.353**	18.968***	16.971***
	(1.82)	(1.93)	(3.34)	(4.35)	(4.51)	(2.88)
University education	27.277***	15.578***	26.763***	21.191***	22.089***	24.596***
	(1.90)	(2.02)	(3.38)	(4.41)	(4.57)	(2.92)
Self-employed	1.501	-0.111	2.199	-1.467	-1.343	0.794
	(1.58)	(1.67)	(2.10)	(2.74)	(2.84)	(1.81)
Active unemployed	0.017	0.476	-3.163	-0.494	-3.453	-2.104
	(2.03)	(2.16)	(2.76)	(3.60)	(3.73)	(2.38)
Inactive	-2.108	0.634	-2.175	-3.101	-7.197*	-2.841
	(1.54)	(1.63)	(2.23)	(2.91)	(3.01)	(1.93)
501 to 1000 euros	0.185	3.027	-3.634	6.764	17.881*	2.021
	(2.97)	(3.15)	(5.23)	(6.82)	(7.06)	(4.52)
1001 to 2500 euros	6.107*	6.180*	4.88	10.734	22.212**	8.828*
	(2.94)	(3.12)	(5.11)	(6.66)	(6.90)	(4.41)
2501 to 3500 euros	13.666***	7.126*	10.736*	12.168	26.516***	13.084**
	(3.20)	(3.40)	(5.32)	(6.93)	(7.18)	(4.59)
Over 3500 euros	15.980***	10.021*	8.116	12.49	23.964**	11.126*
	(3.70)	(3.93)	(5.84)	(7.61)	(7.88)	(5.04)
No income information	0.36	7.526*	2.783	7.88	21.948**	7.16
	(2.98)	(3.16)	(5.19)	(6.76)	(7.01)	(4.48)
10k to 100k inhabitants	-0.371	1.775	2.452	-0.523	2.155	1.381
	(1.17)	(1.25)	(1.62)	(2.11)	(2.19)	(1.40)

More than 100k inhabitants	0.818	1.758	3.205	4.43	2.286	3.275
	(1.57)	(1.67)	(2.13)	(2.78)	(2.88)	(1.84)
North	0.792	3.823**	-1.539	3.294	3.479	0.615
	(1.29)	(1.37)	(1.79)	(2.33)	(2.42)	(1.54)
Centre	0.089	3.615*	1.346	4.842	4.47	2.858
	(1.51)	(1.61)	(2.14)	(2.78)	(2.88)	(1.84)
Alentejo	-2.139	3.378	-2.855	3.644	6.146	0.02
	(2.13)	(2.26)	(2.90)	(3.78)	(3.92)	(2.51)
Algarve	-14.716***	-17.797***	3.654	7.11	-1.344	4.375
	(2.55)	(2.71)	(4.36)	(5.68)	(5.88)	(3.76)
Madeira	-5.953*	-9.218**	-10.258**	-8.739	-18.755***	-11.274***
	(2.86)	(3.04)	(3.73)	(4.86)	(5.04)	(3.22)
Azores	3.128	-3.201	-5.147	-11.467*	-3.247	-5.968
	(3.11)	(3.30)	(4.08)	(5.31)	(5.50)	(3.52)
Constant	38.335***	37.700***	26.482***	31.819***	40.168***	30.105***
	(3.74)	(3.97)	(6.25)	(8.14)	(8.44)	(5.39)
Adj. R-squared	0.495	0.214	0.238	0.112	0.087	0.244
N	1154	1154	873	873	873	873

Note: Results are regression coefficients, standard errors are in parenthesis. Comparison categories are: women, age less than 25, employees, income below EUR 500, city size below 10k inhabitants, education primary and below, Lisbon region. * indicates that results are significant at 5% level, ** for 1%, and *** 0.1%. Results for the three components of the digital financial literacy score (including digital financial knowledge) are calculated on the sample of DFS users, i.e., respondents with a digital financial literacy score.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

Annex Table.3. Factors associated with the likelihood of low Online safety or Digital financial literacy score, when engaging in various digital activities

Results from logit regressions. Odds ratios.

	Likelihood of having a low Online safety score…				Likelihood of having a low Digital financial literacy score…			
	…among those with a high Digital use score	…among those who shop online	…among those who use home banking	…among those who use digital financial services	…among those with a high Digital use score	…among those who shop online	…among those who use home banking	…among those who use digital financial services
Male	1.109	0.929	0.82	0.895	0.556**	0.577**	0.558***	0.635*
	(0.23)	(0.17)	(0.14)	(0.16)	(0.11)	(0.10)	(0.10)	(0.11)
Aged 25 to 39	0.440*	0.541*	0.625	0.522*	1.421	1.257	1.402	1.08
	(0.15)	(0.16)	(0.18)	(0.15)	(0.51)	(0.37)	(0.42)	(0.31)
Aged 40 to 54	0.347**	0.494*	0.612	0.445**	1.326	1.283	1.658	0.958
	(0.12)	(0.14)	(0.18)	(0.13)	(0.49)	(0.38)	(0.50)	(0.28)
Aged 55 to 69	0.426*	1.04	1.148	0.712	1.101	1.525	2.476**	1.317
	(0.18)	(0.35)	(0.35)	(0.24)	(0.48)	(0.52)	(0.79)	(0.45)

Aged 70 and over	0.748	2.224	1.782	1.257	2.161	0.939	2.447*	1.521
	(0.48)	(1.19)	(0.78)	(0.66)	(1.36)	(0.54)	(1.11)	(0.81)
Middle education	0.85	1.375	1.032	0.429	0.701	0.539	0.62	0.46
	(0.68)	(0.69)	(0.43)	(0.22)	(0.56)	(0.29)	(0.30)	(0.25)
Highschool education	0.682	0.726	0.652	0.316*	0.771	0.409	0.54	0.427
	(0.53)	(0.35)	(0.26)	(0.16)	(0.60)	(0.21)	(0.25)	(0.22)
University education	0.588	0.54	0.495	0.213**	0.307	0.163***	0.203***	0.185**
	(0.46)	(0.26)	(0.20)	(0.11)	(0.24)	(0.09)	(0.09)	(0.10)
Self-employed	1.276	1.424	1.232	1.24	1.014	1.024	1.059	0.946
	(0.37)	(0.37)	(0.30)	(0.32)	(0.29)	(0.27)	(0.26)	(0.24)
Active unemployed	0.752	0.714	0.654	0.874	2.112	1.193	1.581	1.165
	(0.31)	(0.26)	(0.22)	(0.31)	(0.82)	(0.42)	(0.52)	(0.39)
Inactive	0.622	0.905	1.029	0.85	1.28	1.372	1.583	1.068
	(0.23)	(0.25)	(0.27)	(0.25)	(0.45)	(0.39)	(0.43)	(0.31)
501 to 1000 euros	0.56	0.556	0.397	0.671	0.366	0.831	1.126	0.699
	(0.46)	(0.42)	(0.24)	(0.47)	(0.34)	(0.63)	(0.71)	(0.53)
1001 to 2500 euros	0.516	0.415	0.291*	0.553	0.213	0.434	0.443	0.351
	(0.41)	(0.31)	(0.17)	(0.38)	(0.20)	(0.32)	(0.27)	(0.26)
2501 to 3500 euros	0.65	0.442	0.291*	0.502	0.182	0.366	0.31	0.214*
	(0.53)	(0.33)	(0.18)	(0.36)	(0.17)	(0.28)	(0.20)	(0.16)
Over 3500 euros	0.264	0.129*	0.119**	0.155*	0.222	0.45	0.325	0.367
	(0.24)	(0.11)	(0.09)	(0.14)	(0.22)	(0.36)	(0.23)	(0.30)
No income information	0.578	0.37	0.303*	0.573	0.189	0.473	0.428	0.433
	(0.47)	(0.27)	(0.18)	(0.40)	(0.18)	(0.35)	(0.27)	(0.32)
10k to 100k inhabitants	0.663	0.551**	0.765	0.724	0.966	0.754	0.974	0.83
	(0.16)	(0.11)	(0.15)	(0.15)	(0.22)	(0.15)	(0.18)	(0.16)
More than 100k inhabitants	0.932	0.666	0.824	0.743	0.915	0.455**	0.692	0.592
	(0.27)	(0.18)	(0.20)	(0.20)	(0.27)	(0.13)	(0.17)	(0.16)
North	0.936	0.785	0.839	0.722	1.086	1.029	0.927	0.981
	(0.23)	(0.18)	(0.18)	(0.16)	(0.27)	(0.23)	(0.20)	(0.21)
Centre	0.392**	0.454**	0.432**	0.437**	0.664	0.668	0.540*	0.587*
	(0.13)	(0.13)	(0.12)	(0.12)	(0.20)	(0.18)	(0.14)	(0.16)
Alentejo	0.952	0.965	0.705	0.652	0.788	1.041	0.717	0.68
	(0.40)	(0.34)	(0.24)	(0.24)	(0.32)	(0.36)	(0.24)	(0.25)
Algarve	2.516	3.565*	2.747	3.916*	0.42	0.739	0.392	0.733
	(2.63)	(1.84)	(1.42)	(2.27)	(0.50)	(0.39)	(0.23)	(0.40)
Madeira	2.573	2.360*	2.522*	2.484	5.739**	3.788**	3.320**	3.367*
	(1.53)	(1.01)	(1.01)	(1.18)	(3.82)	(1.74)	(1.46)	(1.69)
Azores	1.516	1.461	1.141	1.449	1.555	1.1	1.001	1.097
	(0.84)	(0.68)	(0.56)	(0.72)	(0.88)	(0.53)	(0.53)	(0.57)
Constant	3.03	4.021	5.097*	7.923*	4.189	5.464	3.671	7.779*
	(3.16)	(3.59)	(3.74)	(6.59)	(4.82)	(5.00)	(2.85)	(6.85)

N	555	688	752	673	550	688	752	673

Note: Reported results are odds ratios, standard errors are in parenthesis. An odds ratio below 1 means a lower likelihood than the comparison category; an odds ratio above 1 means a higher likelihood than the comparison category. Comparison categories are: women, age less than 25, employees, income below EUR 500, city size below 10k inhabitants, education primary and below, Lisbon region. * indicates that results are significant at 5% level, ** for 1%, and *** 0.1%.
Source: OECD 2022 survey to measure the digital financial literacy of the Portuguese population

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Notes

[1] https://www.oecd.org/financial/education/oecd-international-network-on-financial-education.htm

[2] The overall digitalisation score is computed as the sum of the scores on digital activities related to financial products and services (such as opening a bank account completely online, signing a financing or insurance contract completely online, online payments from customers or to suppliers as a percentage of total payments from customers etc.) and the score on digital activities related to sales and other business operations (such as having a dedicated website to showcase and sell the products or services of the business, the sales of products or services through business' website or shared online platform as a percentage of total sales , the use of social media for business activity etc.). The overall digitalisation score was scaled to range between 0 and 100 (OECD, 2021[15])

[3] https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0006678&contexto=bd&selTab=tab2

[4] https://www.portugalfinlab.org/

[5] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015L2366&from=EN

[6] MBWay is a payment application (« app ») that allows immediate money transfers, online purchases (without providing card details) or physical purchases (with the use of a QR code), generate MB NET virtual cards (used to shop online with a specific amount of money to be loaded) or withdraw money at the MULTIBANCO Interbank ATM Network.

[7] https://www.bportugal.pt/page/registo-de-entidades-que-exercem-atividades-com-ativos-virtuais

[8] Phishing relates to receiving fraudulent messages. Pharming relates to being redirected to fake websites asking for personal information.

[9] This data comes from a survey, so these percentages may be underestimated given that people may not be familiar with these terms.

[10] The Digital Skills Indicator 2.0 (DSI) is a composite indicator which is based on selected activities related to internet or software use that individuals aged 16-74 perform in five specific areas (information and data literacy, communication and collaboration, digital content creation, safety, and problem solving). According to the variety of activities performed in each of the five specific areas, two levels of skills are computed for each of the five areas ("basic" for one activity performed and "above basic" for more than one activity). Finally, based on the component indicators for each area, an overall digital skills indicator is calculated as

a proxy of the digital skills of individuals ("no skills", "limited", "narrow", "low", "basic", "above basic" or "at least basic skills").

For more information, see:

https://ec.europa.eu/eurostat/cache/metadata/en/isoc_sk_dskl_i21_esmsip2.htm

[11] Data from Eurostat is available here:

https://ec.europa.eu/eurostat/databrowser/explore/all/science?lang=en&subtheme=isoc.isoc_sk&display=list&sort=category&extractionId=ISOC_SK_DSKL_I21__custom_2397093

[12] https://eportugal.gov.pt/en/noticias/governo-lanca-plano-de-acao-para-a-transicao-digital#:~:text=The%20Action%20Plan%20for%20the,and%20it%20presents%2012%20measures.

[13] https://portugaldigital.gov.pt/en/about-us/

[14] https://www.incode2030.gov.pt/

[15] https://dre.pt/dre/detalhe/resolucao-conselho-ministros/30-2020-132133788

[16] https://comerciodigital.pt/

[17] https://www.simplex.gov.pt/

[18] For a complete list of initiatives conducted under the INCoDe.2030 programme, please see https://www.incode2030.gov.pt/atividades

[19] https://observatorio.incode2030.gov.pt/

[20] https://www.eusoudigital.pt/

[21] https://portugaldigital.gov.pt/en/training-people-for-digital/available-training-in-digital-skills/more-digital-employment/

[22] https://upskill.pt/

[23] https://iefponline.iefp.pt/IEFP/medJovemMaisDigital.do?action=overview

[24] https://portugaldigital.gov.pt/formar-pessoas-para-o-digital/conhecer-a-escola-digital/

[25] https://digital.dge.mec.pt/suporte-escolas

[26] https://digital-strategy.ec.europa.eu/en/policies/desi-portugal

[27] https://recuperarportugal.gov.pt/

[28] The components include questions on how respondents maintain control over their money and how they avoid situations of over-indebtedness, whether they pay bill on time and whether their can cover

unexpected expenses, their levels of financial stress and whether they save for unexpected situations or for the long term.

[29] https://ec.europa.eu/info/business-economy-euro/growth-and-investment/capital-markets-union/capital-markets-union-2020-action-plan_en

[30] The workshop benefitted from the contribution of representatives from the Central Bank of Italy, the Central Bank of Spain, the Investor and Financial Education Council of Hong Kong, China and the International Association for Research in Economic Psychology.

[31] The National Plan adopted since the beginning the brand '*Todos Contam'* ('Everybody Counts'), as a byword for an initiative bringing together everyone's contribution and emphasizing the importance of promoting financial education for all the population. It also introduced dedicated areas of actions to take into account the specific needs of each segment of the population, with a specific focus on primary and secondary education students, university students, workers, vulnerable groups but also the overall population. It established a governance model and defined objectives as well as methods for evaluating the Plan.

[32] https://www.todoscontam.pt/

[33] https://clientebancario.bportugal.pt/en

[34] https://www.cmvm.pt/pt/EstatisticasEstudosEPublicacoes/Brochuras/Documents/5-Fintech.pdf

[35] https://www.cmvm.pt/pt/EstatisticasEstudosEPublicacoes/Brochuras/Documents/11-Fraudes%20Digitais.pdf

[36] https://www.cmvm.pt/en/Investor_area/Faq/Pages/Digital%20Investment%20for%20Investors.aspx

[37] https://www.cmvm.pt/pt/AreadoInvestidor/literacia/Pages/Gloss%C3%A1riodetermosrelativosaInstrumentosFinanceiros.aspx

[38] https://www.cmvm.pt/en/Comunicados/Comunicados/Pages/20211018.aspx

[39] https://www.asf.com.pt/NR/rdonlyres/7419854C-B5F1-420E-A1DC-76562CD5B59E/0/Canais_Digitais_vertical.pdf

[40] https://www.saberdecontas.pt/

[41] Age groups considered are 16 to 24 years old, 25 to 39, 40 to 54, 55 to 69, and 70 and over.

[42] Education attainment categories are the following: no education; first stage of basic education (primary school); third stage of basic education (middle school); secondary education (high school) and higher education (university).

[43] Employment status for the purpose of representativeness includes active and non-active. Active categories include people in paid employment (including apprentices), self-employed, active unemployed.

Non-active categories include students, retired people, people on sick or disability leave, people taking care of the home, and unemployed people who are not looking for work.

[44] Regions considered are Alentejo, Algarve, Azores, Centre, Lisbon, Madeira, and North, according to the Nomenclature of Territorial Units for Statistics (NUTS) III classification.

[45] City size categories include the following: up to 4 999 inhabitants, from 5 000 to 9 999 inhabitants, from 10 000 to 99 999 inhabitants, and 100 000 or more inhabitants

[46] Although data were collected between December 2019 and February 2020, this report refers to 2020 data for simplicity.

[47] Among the 57 respondents with no formal education, only 3 have a digital financial literacy score hence the average score for this sub-group (6) is largely driven by two of them having answered that they do not know the responses to most questions.

[48] While this overall limited knowledge about the regulation, and therefore the potential risks of crypto-assets, may be a cause for concern, it is worth noting that the European Union Markets in Crypto-Assets (MiCA) Regulation (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0593), which entered into force in January 2023, was already being discussed since 2019, and therefore at the time of the survey. Hence any interpretation of the responses to this question should be made with caution as the correct answer may have been ambiguous.

[49] Among the 57 respondents with no formal education, only 3 have a digital financial literacy score hence the average behaviour score for this sub-group (0%) cannot necessarily be considered representative.

[50] These stakeholders have been categorised according to the criteria identified by the OECD/INFE Guidelines for Private and Not-for-profit Stakeholders in Financial Education (OECD, 2014[56]).

[51] Even if not explicitly reported in the initiatives section of the questionnaire, two of the main initiatives provided by DECO (*DECOForma* and *DECOJovem)* have been included for the purposes of this report.

[52] https://clientebancario.bportugal.pt/en/digital-security-why-it-important

[53] https://www.todoscontam.pt/pt-pt/prevenir-fraude

[54] https://clientebancario.bportugal.pt/en/noticias/banco-de-portugal-launches-toptip-campaign-promote-security-young-people-digital-channels

[55] https://clientebancario.bportugal.pt/sites/default/files/2018-11/Brochura%23ficaadica_EN.pdf

[56] https://www.youtube.com/watch?v=WVBbCZ7ChuA

[57] https://www.youtube.com/watch?v=MpyXHqh-HxU

[58] https://www.youtube.com/watch?v=8ojleOR-6D4

[59] https://www.youtube.com/watch?v=Jf4uejuIQEg

[60] https://www.youtube.com/watch?v=dhF2N16jhbw

[61] https://www.youtube.com/watch?v=QBN1gZMME4M

[62] https://www.youtube.com/watch?v=rHliMC48N64

[63] https://pub.web.sapo.io/static/2020/parcerias/APS/11/23/videos/APS_ALUNOS.mp4

[64] https://oriscoespreita.sapo.pt/

[65] EPMS - Exposição Permanente Memória do Seguro's website:

(https://www.memoriadoseguro.pt/educacao/)

[66] https://www.youtube.com/playlist?list=PLEWIZ-JE3Zdhu6qClBmlXmjN2A2NdUGWM

[67] http://moocs.decoforma.pt/

[68] http://decoforma.pt/noticias/acao-de-formacao-para-parceiros-2/

[69] https://www.youtube.com/playlist?list=PLEfvdwDqOkLyJbNbJPF_Pjr8a0M89yOyn

[70] https://deco.pt/servicos-financeiros/dificuldades-em-pagar-as-contas-guia-pratico/

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