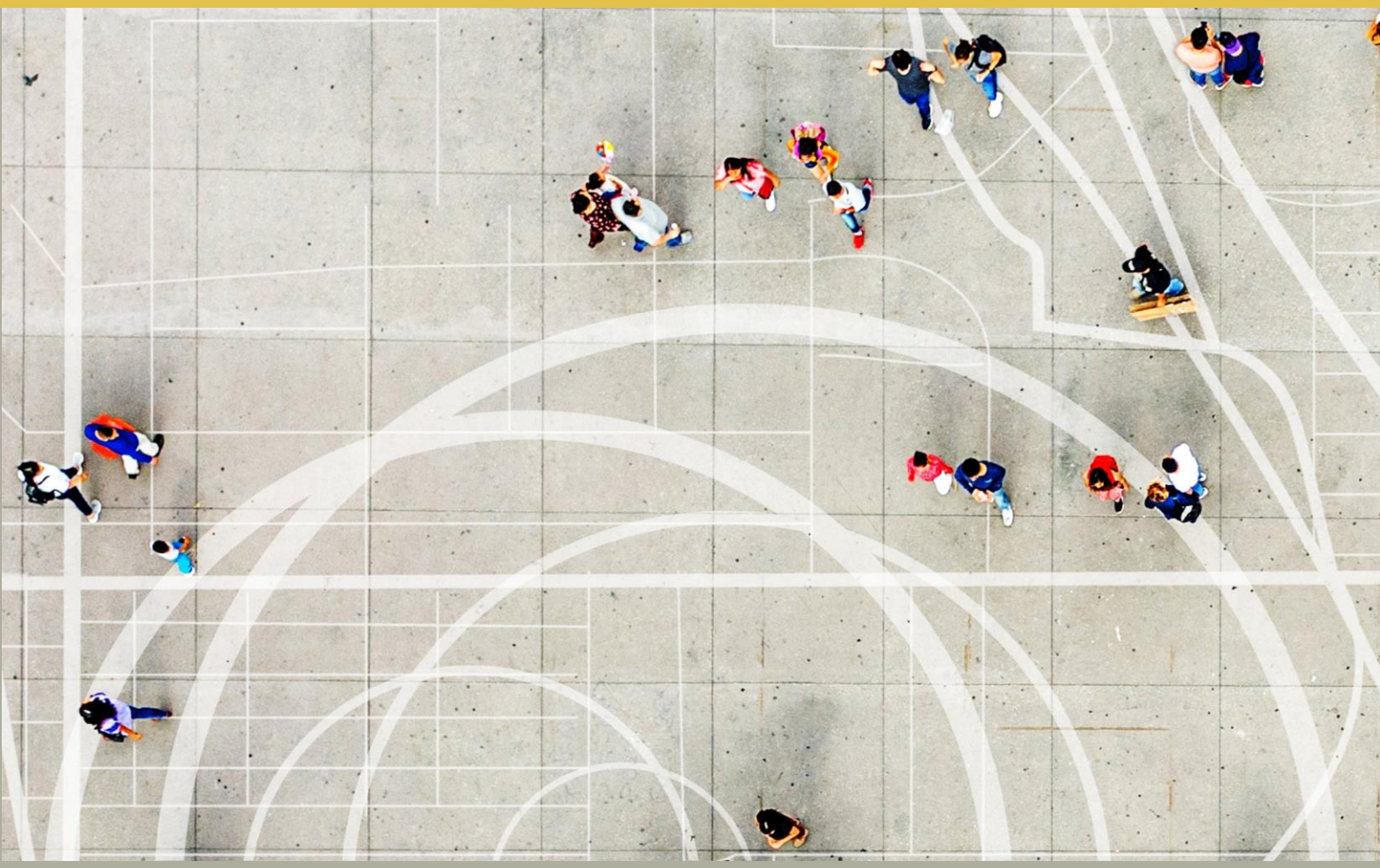
KANTAR PUBLIC



Study on New Digital Payment Methods

Report March 2022

Disclaimer:

The Study on New Digital Payment Methods was commissioned by the European Central Bank (ECB) in September 2021.

The study was designed in line with the methodological requirements set out in the ECB's call for tender and subsequently fine-tuned and co-designed in close collaboration between Kantar Public and the ECB to ensure methodological rigour and adherence to the highest research and ethical standards while remaining within the original tender specifications. The complexity of the topic and the objectives set out by the ECB team determined many important aspects of the study design. The analysis was carried out by Kantar Public and the report reflects the findings of the research.

The report does not necessarily reflect the views of the ECB.

1 EXECUTIVE SUMMARY AND MAIN TAKEAWAYS

This study seeks to provide the European Central Bank (ECB) with a thorough understanding of the current payment habits of citizens of euro area countries and specifically their attitudes towards digital payment methods. In addition, it aims to explore the user perspective on new digital payment methods and potential key features which could drive the adoption of a new digital means of payment with a view to further informing the Eurosystem's investigation of a possible digital euro. Participants were not immediately presented with the concept of a digital euro for a number of reasons, including the inherent complexity and novelty of the concept of central bank digital currencies in general and the concept of the digital euro in particular, as well as the need to avoid allowing people's perceptions of the provider to prejudice their views on the payment method. Instead, the concept of a new "digital wallet" was introduced to encourage discussions about possible desirable features and functionalities of a new digital payment method in comparison to those already on the market. The concept of the digital euro was introduced towards the end to explore the existing level of knowledge and understanding among respondents as well as people's perceptions of a digital euro backed by the ECB/Eurosystem.

This report is based on insights from qualitative research conducted in all euro area countries. To ensure the robustness of the research and to obtain a holistic overview of the perceptions and attitudes on the topic, a carefully selected range of target audiences were interviewed across all 19 euro area countries, including 2,160 members of the general public, 142 tech-savvy participants, 138 merchants and retailers, and 89 individuals with limited access to banking services or the internet, all of whom were interviewed using a qualitative approach tailored for each target group. The research methodology is presented in more detail in Chapter 2. The results from the research are presented per target group starting from chapter 3. Country fiches in Annex 1 provide information about the context at a country level, equally highlighting any divergences from the main research results.

The summary below provides an overview of the main findings by target group.

1.1 The general public and the tech-savvy

Most important features that could underpin the adoption of a new payment method

Discussions with the general public and the tech-savvy indicate that, in order to encourage interest in and engagement with and to possibly drive acceptance of any new digital payment method, this method will need to offer compelling advantages over current options or novel benefits that simplify daily life. The following features, in order of importance, were considered to be the most critical by participants in this respect:

- **Universal acceptance** was considered the most important feature – ideally, across the euro area, all merchants in physical and online stores would need to accept it, regardless of the size of the purchase.
- **Instant, contactless and open person-to-person payments** – instant, easy, contactless payments came up as a very important selling point. Even more appealing would be a digital wallet that allowed these payments regardless of the platform or device used by the payers and payees.
- A **one-stop solution** was envisioned by participants, allowing them to combine multiple payment methods into one, reducing the need for multiple cards and personal identification numbers (PINs), streamlining financial management and giving them access to a range of payment options on one device. Some participants would also welcome accounting and financial reporting functions, with customisable spending reports or enabling them to set spending limits.
- **Easy to use, secure, reliable and fast – biometric authentication.** Security not only encompasses privacy of personal data and protection from fraud and hacking, but also secure and reliable authentication for payment. Biometric verification, including fingerprint, face or iris scans, are indicated as being highly desirable. Any feature that would make a payment convenient, fast and easy, without compromising security, was particularly popular with the tech-savvy. For younger respondents in particular, a higher level of convenience compared to their already competitive current payment methods would be a strong motive to adopt a new payment method.
- **Cost-efficiency:** The digital wallet or digital euro would need to be able to provide and optimise all of the functions mentioned above at no cost or with very low fees.

Desirable features and functionalities of a new digital payment method – the "digital wallet"

In discussing a new digital payment method, referred to as the "digital wallet", the following features and functionalities were raised by participants:

- When it comes to **setting up the new digital wallet, the onboarding must be user-friendly, fast and easy.** In line with the convenience requirement, participants would not wish to have to purchase and learn to use yet another device, preferring to integrate the wallet into one they already own and use. As a result, they would prefer the wallet to be seamlessly available on a broad range of devices and operating systems, so users are not tied to a particular solution.
- **Privacy:** Several participants among the general public, but also among the tech-savvy, indicated they do not really think about privacy when making payments. However, the availability of **flexible privacy settings that can be adjusted to suit the payment occasion** could be an additional feature to drive adoption. Most respondents would opt for a medium level of financial privacy without special concerns for the visibility of their transaction to their bank as long as they could avoid exposure to bank advertising. Many would like the option to adjust privacy levels based on the specific payment situation.
- When it comes to **funding a digital wallet**, the majority **preferred manual funding with customisable payment reminders** when the balance of the digital wallet is below a set threshold. The **option of automatic top-ups** was most appealing to the tech-savvy.
- Conditional payments (only discussed with the tech-savvy) were seen as nice to have and interesting, but not a key driver for the adoption of a new digital payment method.
- Other features that were less widely mentioned and not so highly rated were the ability to use the device with or without an internet connection, devices that do not need recharging, devices that would be free to acquire, and value-added services, such as cashback, loyalty schemes or discounts. Some tech-savvy participants would also like the wallet to have smart ways of recognising a payment, for example via a QR code or scanning capabilities.

- **Risk-freeness, a feature that sets the digital euro apart from any other digital payment method currently available, is appreciated, but many participants did not fully understand its intrinsic added value.** Unsurprisingly, most did not see a difference between central bank money and commercial bank money – both were seen as safe and secure, particularly as amounts up to €100,000 in their bank are protected by public deposit guarantees, something which the vast majority were actually unaware of. Therefore, being able to hold risk-free central bank money in the form of the new digital euro may not, on its own, be a strong incentive for adoption.
- More generally, **functional aspects and features are considered more important factors than the provider of the service** when participants consider adopting a new digital payment method, although **nearly all participants would prefer a bank, a central bank or a European entity to a big technology company**. While many perceived big technology companies as more innovative, when explicitly asked, participants said they trusted them less, particularly with their personal and financial data. A bank or central bank would be preferred as the provider, as these are considered more trustworthy, reliable and safe. A European entity is also preferred, as it is seen as well-regulated and expected to be able to provide a solution covering the whole euro area or the whole of the EU.

Current payment behaviour and recent experience with new payment methods

- With regard to current payment habits, both the general public and the tech-savvy reported using a range of payment methods, depending on the occasion and situation. **Debit cards were the most commonly used for day-to-day shopping, with cash and mobile payments (including via apps and global online payment solutions) also widely mentioned**, particularly by the tech-savvy. Other payment methods, such as credit cards, bank transfers and direct debits, were used in specific circumstances. There was a **strong preference for payment methods that are convenient, fast, easy to use and widely accepted, at least domestically**. Older participants, particularly those aged 65+, usually reported using a more limited number of payment methods, with a preference for more traditional means, such as cash and debit cards. Younger participants reported using mobile payment methods more frequently than older cohorts. There are also geographical differences, with more widespread use of mobile payment options in technologically mature markets, particularly Estonia, Finland and Ireland.
- **Few of the general public and tech-savvy participants had recently adopted a new payment method or had actively been seeking a new one.** Almost all felt well served by the range of options they currently use, and they expressed no desire for change. Many, particularly among the tech-savvy, reported actively looking to reduce the number of payment options they use. Thus, simply having access to a new payment option would not be a sufficient motive to switch for these populations; rather, they feel that to consider a new payment method they would need to have an innovative product that optimises and simplifies, rather than increases their options.

The digital euro

- **Few participants among the general public or the tech-savvy had heard of the digital euro** or knew much about it. The most common spontaneous assumptions they reported were that it was likely to be a cryptocurrency like Bitcoin, or a digital currency that could be used to purchase online goods and services. **However, once it was explained to them, participants appreciated the difference between the digital euro and cryptocurrencies and liked the fact that it would be backed by the ECB. This is considered an added value in terms of safety, regulation and stability.**
- Some participants worried that the introduction of a digital euro would lead to a phasing out of cash. Often, participants were less concerned for themselves, but for other groups, like older people or those without access to the internet, who they perceive to be dependent on the use of cash.

1.2 Merchants

Critical features that could underpin the acceptance of a new payment method

There were a number of similarities between the responses of the general public and this specific target group. However, when it comes to offering and accepting a new digital payment method, the following elements were considered key by merchants:

- The overarching key driver for acceptance by merchants of any new payment method, whether digital or non-digital, would be **customer demand**. Even high operating fees were not seen as a deterrent when payment methods are very popular among customers, and merchants feel compelled to accept them.
- An element that currently hinders some merchants from accepting new payment methods are the fees involved. It is worth noting, however, that fees were not seen as a determining factor in whether to accept a payment method in isolation; rather, it is weighed against customer demand. **Lower fees than current fee levels could convince merchants to accept a new digital payment method** as long as there is a significant group of customers demanding it.
- Another critical feature was **speed of transactions**: fast or instant payments and instant access to the funds are very attractive features for merchants, as they make cashflow management easier and improve the shopping experience. As merchants were not fully satisfied with the speed of their current payment instruments, a new high-performing digital payment instrument with reliable instant payments could provide significant value for this group.
- **Technical reliability, backed up by agile and good customer service**, was also important for merchants when it comes to their payment methods. They want a new payment instrument to be easy to use and intuitive, with minimal investment in new equipment and payment technologies, e.g. by using their existing payment technology or using scanning technology available on their smartphone (QR codes, etc.).
- Crucial for merchants' acceptance of a new digital payment method was a **good level of integration with their day-to-day business activities and existing payment and accounting systems**. The integration of accounting tools, cashback, bonus points, and marketing activities as a way of supporting the introduction of a new payment service would be appreciated.
- A final critical feature for both merchants and their customers is **assurance of security and safety**. In addition, for some merchants, digitalisation was associated with a notion that the payment system would become unsafe and exposed to more risk (e.g. phishing).

Current experience with payment methods

- **In principle, merchants reported accepting a wide range of payment methods**, such as cash, credit cards (mainly Visa and Mastercard), debit cards, online payment methods (e.g. PayPal, Klarna, SOFORT, eps-transfer), mobile-to-mobile payments, banking apps (e.g. Revolut), bank transfers, and pre- and post-sale invoicing and, to a decreasing extent, cheques. But the range of payment methods accepted is **driven by the need to satisfy customer preferences, as flagged at the beginning of this section**. Another important factor reported by merchants in the discussions was the image of their business – it is important to offer the latest payment methods so that their companies are seen as technologically up to date. Few merchants reported that they have recently started accepting a new payment method, and if they did, the main reason was popular demand.
- **In general, merchants seemed to be satisfied with the current payment methods they use.** They **value speed, convenience, reliability and customer-friendliness**. Payments must be easy for the customer and the money must move as fast as possible, whether towards their own bank accounts or those of their suppliers.
- **Fees, especially those charged by credit card providers and some digital payment providers, are an issue for merchants, who feel they have little choice.** Their preference is obviously for payment methods that carry the least cost to the seller.
- When it comes to the **payment solution provider, the country in which the provider is based seemed not to be an issue**. For merchants, the most important thing is that payments work without error. In the event of problems, they like having a local contact at their bank or a reliable hotline; however, most have had good experiences with digital payment providers, with some notable exceptions.
- The most **important improvements** for merchants are **enhanced technical reliability, good customer service, low fees and additional services** (e.g. integration of accounting tools, cashback, bonus points, marketing activities ahead of the introduction of a new payment service, etc.).

Attitudes towards digitalisation

- **Although there is an obvious trend towards digital payment methods, in some countries cash is highly valued.** Cash is preferred due to perceived lack of charges and because it suits some customers' profiles, although the handling, collecting, transporting and processing of cash by banks and cash-in-transit companies have become increasingly expensive. For those merchants accepting digital payment methods, all of them accept debit cards and many also accept mobile payments. The advantages of digital payment methods for merchants were transaction speed and reliability, and ease of use for both customer and merchant. They also provide a traceable proof of payment.
- **Online payments have increased considerably in recent years** and merchants expressed a readiness and willingness to cater for this development in order to serve their customers, especially younger customers, who demand more modern payment methods. They would expect this trend to continue over the next 5-10 years, but **point out the importance of also keeping cash and other payment options available for their customers**.

The digital euro

- **Few merchants have heard of the digital euro and their awareness of the digital euro is generally very low.** This was also the case in technologically advanced countries such as Estonia and Finland. Most participants in this group had not heard about a digital euro before the session, and those who had did not have specific information to share about it.
- **When the concept of the digital euro was explained, merchants were at best neutral to the idea.** They remained sceptical about the introduction of this new means of payment, as many worried it would mean the start of the disappearance of cash. The initial reactions of merchants to the digital euro varied: some associated it with developments in the crypto market, others saw it as a means for central banks and governments to increase oversight and control over their citizens, and others perceived such a development as an attempt to end the black economy. Merchants tended to not understand the difference between a digital euro and the euro they already use in digital form. They also expressed the view that online payments are already digital money and did not see how the digital euro is any different.
- Features specific to the digital euro, such as the digital euro potentially becoming legal tender and, as central bank money, being risk-free, were also relevant to merchants. The concept of legal tender is perceived by merchants as a requirement they would need to comply with. Indeed, **most merchants would not object to the digital euro becoming legal tender** and would accept the digital euro as such.
- Merchants indicated that they would need clear communication about the critical features outlined above (fee levels, speed of transactions, technical reliability, customer service, integration with day-to-day business activities and existing payment and accounting systems, envisaged levels of security and safety, etc.). Nevertheless, along the same lines as the key drivers already mentioned, customer demand would remain pivotal to merchants' acceptance of the digital euro as a means of payment. To them, the digital euro would be yet another alternative for accepting payments.
- On the flipside, the main barriers to the acceptance of new methods would be low customer demand, possible financial charges and fees for merchants, poor levels of integration with their existing systems, the possible need to invest in additional technology (terminals, point-of-sale (POS) equipment) and the time and effort required to "get up to speed".

1.3 Unbanked/underbanked/offline population

Participants in this study had different reasons for being unbanked, underbanked and/or offline that went beyond the narrow realm of payments. The main rationale usually related to unfavourable life circumstances (such as no steady income, not in charge of finances, personal bankruptcy), emotional barriers (distrust of banks, reluctance to use the internet and digital banking tools, negative banking experiences in the past) and functional barriers (the lack of technical skills). Frequently, this was a matter of age, with older people and women being more used to traditional payment methods such as cash.

Critical features that could underpin the adoption of a new payment method

The key features that a new payment method should have to make it attractive to at least a subsection of the unbanked, underbanked and offliners are **being easy to use, secure and free of charge. In essence, it should act like cash as much as possible.**

- The **most important feature** was that a new payment method should be **easy to use without requiring technological skills** and have a very low bar for the onboarding process. Ideally, it would have the same features as current payment methods – allowing people to make low-value private payments (like cash), to make instant payments, to have full control of their expenses, to withdraw money using a card, to make automatic payments, to have a monthly statement, and to have the possibility of offline use without an internet connection.
- A **second element** was **safety and security**: personal information needs to be kept secure, in view of the high level of mistrust of banks among this group, and users need to be protected against misuse in the event of loss or theft as an added value compared to cash.
- The payment method also needs to be free or with low fees, no maintenance costs and, for some, ideally with an option to borrow a certain amount of money for more difficult months.
- A final, important feature to potentially drive adoption of a new payment method was a **robust customer support system**. Participants felt that a significant level of initial support would be needed to set up a new digital payment system and overcome reluctance. They expressed a clear preference for face-to-face support where they could learn how to use the device or payment method step by step. Personal contact, information, and clear, patient explanations, supported by, at least, textual and visual explanatory leaflets or video tutorials and some backing from the banking system or public financial institutions, would be an important factor to win some over.
- In addition, the adoption of any new payment method among this group will heavily depend on the advice and support they can receive from family, friends and acquaintances.
- It is worth nothing that there was a general lack of interest in payment services provided by banks, in particular for the unbanked. This, coupled with the absence of any strong need, partly stemming from the perception that cash is accepted everywhere and in any amount, is the reason this particular target group has remained unbanked or underbanked. Older participants, in particular, are often unwilling and see no need to deal with new things and learn new skills, especially if they are not perceived as necessary for life, such as using the internet.
- When respondents were asked about the potential provider of a new payment method, there was widespread mistrust of the idea of foreign corporations managing their money. Some respondents were indifferent, and others clearly expressed a preference for a local bank or a public authority, which they felt would care more, comply with their own country's privacy laws and work harder to safeguard the privacy of its customers.

Current payment behaviour and recent experience with new payment methods

- When it comes to payment habits, **the main payment method** used by unbanked, underbanked and offline individuals is **cash**. The main reason for this strong preference is that cash was seen as the most accessible, most trusted form of payment, and the easiest to handle. It provides a sense of control and ownership. According to participants, cash enables them to keep track of their expenditure and control their spending behaviour. In addition, the participants, especially the offline participants, preferred cash due to concerns over the privacy, security and safety of other payment methods.
- **Debit and credit cards and other digital payment methods in general are their least favourite**, and only for very occasional and unavoidable use, such as to withdraw cash from an ATM. The participants almost never use credit cards and tend to have them, if at all, for emergencies and instalment payments only. Underbanked individuals tended to lack awareness of payment methods other than cash and cards.
- **Unbanked individuals had mixed feelings about, and an evident level of resistance to, the possibility of adopting a new digital payment method.** Overall, there was a general reluctance and lack of openness towards new digital payments, explained by low interest and low perceived or actual need, and driven by apparent satisfaction with their current payment methods. Some participants indicated a fear of loss of control and independence, for example if they needed to turn to others to use their card or had to disclose their password details to others. This emerged from the interviews with these segments of the population in all the countries. Participants felt that they could handle their own finances and felt in control. With new digital methods this could change, and they might depend on others to set up, use and account for the way they use the new method, and might also need help to resolve issues or get their money back. Concerns were also expressed about the security and safety of such new digital payments.

The digital euro

- **The unbanked in general have not heard of the digital euro.** This group expressed little interest in this concept or in financial information, which they found vague and incomprehensible. Conceptually, it was understood as the evolution of the euro in the new digital times, but it remained very abstract.
- The unbanked, underbanked and offline population felt slightly **overwhelmed by the idea of a new digital payment method**. They expressed the need to receive information on the advantages of a digital euro as opposed to the payment methods they currently have at their disposal, and how it would be beneficial for them.
- Freedom of choice was also very important to these participants, who **fear a digital euro would endanger commercial banks and mean the end of the use of cash**. They do not want to be forced to use a new means of payment

2 OBJECTIVES, SCOPE AND METHODOLOGY

2.1 Research objectives

The ECB commissioned a comprehensive study of new Digital Payment Methods in September 2021 with the objective of:

- understanding the factors that underpin payment method preferences, how citizens of euro area countries use their preferred payment methods and the key drivers that support their payment habits;
- providing the ECB with a user perspective on digital payment methods, as well as more profound insights into the drivers of and barriers to potential adoption of new digital payment methods among different population sub-groups;
- exploring and identifying features which would make a new digital payment method attractive and prompt adoption and acceptance;
- establishing a baseline for current knowledge and understanding of digital central bank currencies and a digital euro.

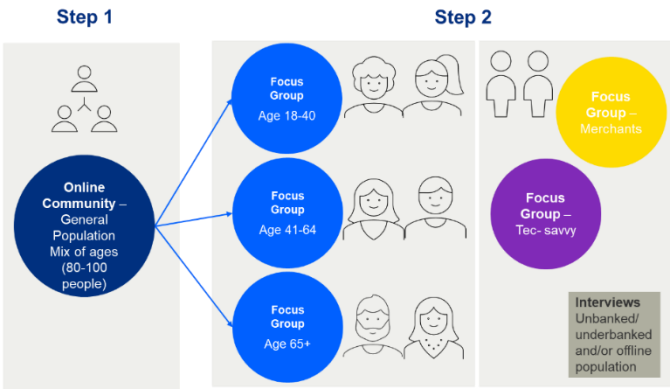
As the report presents insights gathered from qualitative research, no conclusions can be drawn with regard to the representativeness of these results for the euro area population as a whole. As for any qualitative research, the findings are communicated in descriptive terms and the use of proportions and percentages is avoided.

2.2 Selected target groups and demographics

This section will provide an overview of the geographical scope of the study as well as a detailed description of the target audience interviewed in each country. For reasons of comprehensiveness, as well as to ensure that a full spectrum of diverse opinions is collected, the qualitative design covered all euro area countries.[1] A key design feature of this research is that, in each euro area country, the same target audiences were interviewed as a way of guaranteeing comparability and consistency. The selected target audiences, as well as the criteria for recruitment, are outlined below.

- The **general public** had the following profile: citizens or residents living for ten or more years in the respective euro area country; aged from 18 to 65+; a mix of different levels of educational attainment (ranging from primary school to university degree or higher); feeling positive, neutral or slightly negative about the EU and about the euro; in a range of occupations; using a mix of payment methods (e.g. cards, mobile payment apps, online payment methods, smart devices/wearables, banking apps, direct debit, credit or bank transfers, cash) with varying intensity.
- The **tech-savvy** had the following profile: citizens or residents living for ten or more years in the respective euro area country; aged from 18 to 65+; a mix of different levels of educational attainment (ranging from primary school through to university degree or higher); feeling positive, neutral or slightly negative about the EU and about the euro; in a range of occupations; using the internet every day or almost every day for various activities, on a range of devices. A key criterion was the regular use of cards, mobile payment apps, smartwatches, banking apps, credit transfers and other forms of online payment.
- **Merchants** had the following profile: small or micro business owners, with fewer than 49 employees; operating in the retail sector with a mix of online and offline business operations; accepting payments in cash, bank cheques, payments through mobile apps, online payment methods, banking apps, credit or bank transfers.
- The **unbanked, underbanked and offline** had the following profile: citizens or residents living for ten or more years in the respective euro area country; aged from 18 to 65+; a mix of different levels of educational attainment (ranging from primary school through to university degree or higher); feeling positive, neutral or slightly negative about the EU and about the euro; in a range of occupations; rarely or never using credit/debit cards, mobile payment apps, smartwatches, banking apps, credit transfer; some having a bank account or payment card. Some participants did not have a bank account or rarely/never used a payment card.

Figure 1 Digital payments research project, overview of qualitative exploration phase steps 1 and 2



Source: Kantar Public

[1] Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia and Spain.

2.3 Methodological overview

The methodological approach consisted of a series of qualitative exploratory steps, with a combination of methodologies, each of which met specific research objectives (see Figure 1).

The research proceeded in two steps:

Step 1 consisted of **online communities comprising members of the general public**[2] to firstly explore and understand payment habits, attitudes and preferences, in particular regarding digital payment instruments. Second, the specificities of an ideal new digital payment method, referred to as the new "digital wallet", were explored. Third, the online communities established a baseline knowledge of the current understanding of a digital euro.

Step 2 involved **focus groups comprising members of the general population drawn from online communities**, **focus groups** of the **tech-savvy** and **merchants** recruited using traditional qualitative techniques, and **telephone interviews with members of the unbanked, underbanked and offline population**. The focus groups explored in detail specific features of a new digital payment method, by means of scenarios and a conceptual description of a digital wallet. Focus groups and interviews with specific targets (tech-savvy, merchants, unbanked, underbanked and offliners) explored the relevance and importance of these features from their particular perspectives in order to establish what would drive acceptance of a new digital payment method for these profiles.

As digital currencies, digital central bank currencies and a not-yet existing digital euro are complex and unfamiliar concepts, various types of stimulus materials were used in the fieldwork phase. In addition, pilots were held to trial the order of questions, phrasing and formats of stimulus materials. The results of the pilot phase were used to further inform the discussion guides and the drafting of the stimulus materials to ensure optimal insight could be obtained from each target audience.

The concept of a digital wallet was introduced to help people understand the possible features of a digital euro and to imagine what this experience could mean for them, without expressly mentioning the digital euro from the outset. For the focus groups in particular, when the potential technical features of a new digital payment method – a new digital wallet – were discussed, scenarios were created to help participants to visualise and grasp the practical unfolding of the said features. A text describing central bank digital currencies and the digital euro helped moderators to explain and discuss the concept when introduced later in the discussions.

The research results presented in this report are based on **online communities with 1,735 members** of the general public, as well as **focus groups with 425 participants from the general public**, **focus groups with 138 participants who are merchants or retailers** and **142 tech-savvy participants**. Lastly, **89 in-depth telephone interviews with unbanked, underbanked or offline participants** were organised across the euro area (see Figure 2)[3].

In-person focus groups (ca. 8 to 10 participants each) were the default methodology chosen across all target audiences. However, when and where the coronavirus (COVID-19) pandemic hindered face-to-face focus groups, five (one group per target audience) online focus groups (with ca. 4 to 6 participants each) were organised. In order to increase the sample size, some countries organised ten online focus groups.[4] All focus groups lasted 90 minutes across both modes. Five telephone interviews per country, with a duration of 45 minutes were conducted with the unbanked, underbanked and offline respondents in each euro area country.

Figure 2 Total number of participants per methodology[5]

Source: Kantar Public

[2] An online community is an online qualitative methodological tool that allows participants to answer questions and complete tasks at their own convenience. The tasks were spread over three days, requiring a daily commitment of 20-25 minutes. Each online community comprised 80-100 participants per country.

[3] Total number of online communities, including the pilot phase: 23 (three pilot online communities in Germany, Italy and Ireland in the pilot phase; then one online community in each of the 19 euro area countries, except for Belgium where there were two). Number of focus groups: 128 (three pilot country focus groups for the general population; then 125 focus groups across 19 countries). Of the 125 focus groups in the main part of the study, 25 were retailer focus groups and 25 groups were tech-savvy focus groups, while the remaining 75 comprised members of the general public. Number of in-depth-interviews: 89 (five in each country, except Malta, Luxembourg and Cyprus, where there were three).

[4] Countries which organised face-to-face fieldwork: Spain, Malta, Italy and France. Countries which moved online: Austria (10 groups), Belgium (10 groups), Cyprus (5 groups), Estonia (5 groups), Finland (5 groups), Germany (10 groups), Greece (5 groups), Ireland (10 groups), Latvia (5 groups), Lithuania (5 groups), Luxembourg (5 groups), the Netherlands (5 groups), Portugal (10 groups), Slovakia (10 groups), Slovenia (5 groups). See annex 2 for a breakdown of participants per country, per methodology.

[5] Total number of participants excludes those in the pilot phase.

3 TARGET GROUP: GENERAL PUBLIC AND THE TECH-SAVVY – CURRENT PAYMENT HABITS

3.1 Key findings

This section provides an overview of the results of the consultations carried out through online communities with the general public and focus groups comprising tech-savvy respondents.

Across the euro area, a range of payment methods were utilised by the general public and the tech-savvy on different occasions and in different situations. Respondents cited debit cards as the most common payment methods used for day-to-day shopping, followed by cash and mobile payments (including those via apps). In some circumstances, other payment methods, such as credit cards, bank transfers and direct debits, were used. The tech-savvy reported a similar range of methods, but with a greater emphasis on the use of mobile payment options.

The use of payment methods also depends on the level of technological advancement of the country and the demographic profile of participants. In countries with a high level of digitalisation and a more innovative payments market, participants usually utilised a larger set of payment instruments and were more open to using digital payment methods. Participants aged 65+ used a more limited number of payment methods, showing a preference for cash. Younger participants reported using mobile payment methods more frequently than older people.

With regard to preferred payment methods, common factors cited are convenience, ease of use and wide acceptance. These factors – along with recommendations from friends – were also cited as the key drivers for adapting to a new payment method in the past. Where a new payment method was reported as the only option available in certain situations, this was also a powerful driver for adopting the new method. Other aspects that participants considered were cost, security and privacy. **The discussions showed that payment methods were evaluated purely on their functional features and their suitability for meeting people's needs.** Users pay much less attention to other aspects, such as the provider.

However, recent rates of adoption of new payment instruments have been low, as most participants felt that existing methods already respond to their needs. As a result, participants did not actively seek out new payment methods, and any new method would need to prove its added value and advantages over existing solutions. Again, convenience, wide acceptance and security were the basic requirements before participants would consider adopting a new payment method. These findings are explored in detail in the sections that follow.

3.2 Review of payment habits and preferences

Payment habits

General public and tech-savvy participants discussed the payment methods used in a range of daily situations. **Across all countries, participants in both groups reported accessing a wide variety of payment options,** depending on the occasion or situation.

> "As mentioned, I use my card for the big purchases, i.e. the large amounts in the store. I pay cash for small purchases. Online, I have to pay by credit card."
>
> General public online community, female, 41-64, Luxembourg

> "I use a debit card for most of my payments (about 80%). If the amount is very small or it is a smaller store, I use cash. I also like to take part in country fairs or the market, and there I need cash. This is why I always carry some amount of cash in my wallet. I have made several bigger transactions (over €1,000) in cash. I have a credit card, but I only use it for online purchases or when I have to. When shopping online, I prefer bank links or transfers."
>
> General public online community, female, 41-64, Estonia

For everyday purchases and general shopping, three methods were repeatedly mentioned: debit cards, mobile payments and cash.

Debit cards were used for everyday shopping, and in some cases for online purchases. Debit cards had broad appeal across all demographic groups. The use of contactless versions of these cards increased considerably as a result of the COVID-19 pandemic due to hygiene concerns, and many participants reported that the pandemic encouraged them to make greater use of cashless and contactless payment options.

The contactless payment category included mobile payment options, such as Apple Pay, Google Pay, apps like Revolut, more country-specific aps like Bizum (ES), Payconiq (BE, NE, LU), Lydia (FR), MobilePay (FI) and Satispay (IT), and apps issued by individual banks. These **mobile options were predominantly used for day-to-day purchases and general shopping in stores and, for some participants, also for online shopping**. However, due to security concerns, some participants reported restricting the use of these options to lower-value purchases. Mobile payment apps were also used by some participants for person-to-person transfers of money. **The use of mobile payment options** was generally skewed towards younger participants and participants more accustomed to using technology. They **were more widespread in technologically mature countries** such as Finland and Estonia, while mobile payment apps were rarely used in less technologically mature countries such as Lithuania and Slovenia.

The tech-savvy relied more heavily on mobile payment options for day-to-day transactions. This group preferred smartphone-based payments (including apps and digital wallets) as they were deemed easy to use and secure. The tech-savvy reported they always carried their phone. For this reason, these options were reported as convenient, and they did not require a PIN. This trend was particularly evident in Portugal where most tech-savvy participants reported not having a physical wallet and relying totally on mobile payment options. Revolut was also used by participants in many countries because it was deemed convenient, low-cost, and easy to use, with a range of financial features (such as cryptocurrency access) and good support. Some country or region-specific apps were also popular among the tech-savvy including Payconiq (BE, NE, LU) and Satispay (IT).

> "I always have my phone in my hand, it's very fast, I don't have to look for my card. It systematically asks for authentication, either face ID or the code, so it's secure."
>
> Tech-savvy focus group, female, 18-40, France

Cash was popular with the general public but increasingly used only for lower value day-to-day purchases (e.g. in bakeries and small shops), or where cash was the only method accepted (e.g. vending machines, payments or tips in restaurants and cafés). In Austria, Malta and Italy, however, even the tech-savvy participants indicated that cash was still preferred as it was the most widely accepted payment option and allowed greater spending control. Cash was also more frequently mentioned by the tech-savvy in Germany than in other countries.

For online purchases, credit cards, debit cards with a credit function, PayPal and apps like Klarna and AfterPay were the most popular payment methods among both the tech-savvy and the general public. PayPal was singled out by tech-savvy participants in many countries as their preferred method for paying online as it provides extra security and protection for buyers. Participants in Greece, however, rarely used PayPal, as this was less well known and not widely accepted by vendors.

> "Last year I bought a product seen on an Instagram ad. Since I thought it was a bit risky because, you know… it can be a scam… So I paid with PayPal, because it's more secure, you feel quite protected…"
>
> Tech-savvy focus group, female, 18-40, Italy

As well as being popular for online shopping, credit cards are also widely used for higher value purchases such as larger household items or holidays. Direct debits, bank transfers and standing orders are popular for paying regular bills such as rent and utilities.

For person-to-person payments, a wide variety of methods were used. Aside from cash being the top-of-mind payment method, digital payment methods mentioned included bank transfers in Austria (the preferred option in this country), PayPal in Germany, Revolut in Ireland, Bizum in Spain and in Tikkie the Netherlands.

Preferred payment methods

Although the general public and the tech-savvy liked having a wide range of payment options, a common theme underpinned their choices: **the methods needed to be quick, convenient, safe and widely accepted**. In several countries, including Germany, Belgium and Latvia, participants also preferred methods that allowed them to have an overview of their spending. As already indicated, the **preferred payment methods were equally determined by the technological maturity of a country**. The more technologically mature the country, the more popular were digital payment methods such as mobile payment methods.

The use of contactless versions of cards increased considerably as a result of the COVID-19 pandemic due to hygiene concerns; likewise, online shopping increased due to lockdown measures such as the closure of shops. This increased the use of and the preference for other payment methods like PayPal, Klarna and AfterPay.

General public and tech-savvy participants preferred debit cards as these were reported as widely accepted and quick to use (especially if contactless). Debit cards were considered convenient because people always had them in their wallet, they were easier to carry than cash, and there is no need to find an ATM to make withdrawals. In addition, debit cards were preferred because of the lower cost of their use vis-à-vis credit cards, and they were deemed safe, secure and backed by a bank. For some participants, debit cards provided a measure of budget control. Debit cards were popular across all demographic groups.

Although the occasions for its use were reported as declining in many countries, cash was still popular as it was considered easy to use and was widely accepted. Participants liked the physical sensation of holding and spending money, and they valued the budget control provided by making the spending a tangible gesture. Cash also was reported as having the advantage of being an anonymous or untraceable payment option. In most countries, the older the respondent, the more likely they were to use cash as a payment method. This was prominent in Luxembourg, Ireland, France, Slovenia and Belgium.

Participants who preferred mobile payment options (including digital wallets and apps) reported the following reasons: speed, convenience and ease of use via the phone (always carried by participants). Many also liked the fact that these options allow them to dispense with a physical wallet. Low or no fees for the users was also a benefit. In most euro area countries, younger digital natives [6] were the most likely to use mobile payments. The exceptions were technologically mature countries, where fewer demographic differences in the use of mobile payments were found. Finland and Estonia were the main examples, and, to a lesser extent, Ireland. However, even in these countries, there was a tendency for older respondents to use more traditional payment methods rather than mobile payment options.

Credit cards were a popular payment method when shopping online due to their safety. This method was also reported as allowing participants to delay payments due to the billing cycle, or to spread the cost of larger expenses.

Participants liked PayPal because of its security and the protections granted to buyers. The privacy of not providing credit card details to vendors was also appreciated. Participants appreciated payment services like Klarna and AfterPay for the possibility of spreading payments over a longer period with no fees, as well as allowing them to pay only for items kept. These methods were also seen as quick and easy to use.

Finally, participants considered direct debits and standing orders practical for utilities and other regular bills.

[6] "Digital natives" refers to that portion of the population who were born or brought up during the age of digital technology and so were familiar with computers and the internet from an early age.

Unused payment methods

Among the general public and the tech-savvy, the reasons for not using a particular payment method were the lack of necessity or the availability of a wide range of other options:

> "I don't use Revolut or equivalents because I have never felt the need. Similarly, for the other methods I listed Smartwatch, PayPal, Apple Pay, etc. I feel I have enough payment methods available. If it ever turns out that some of these methods are advantageous enough in terms of cost or convenience, I will adopt them."
>
> General public online community, male, 65+, Ireland

> "If, and when, the current methods work well and smoothly, there is no need to look for new options."
>
> Tech-savvy focus group, male, 41-64, Finland

Other common reasons for not using certain payment methods were that these were **unavailable, unfamiliar to participants, or security and/or privacy concerns.** This was in particular the case with users from less technologically advanced countries with regard to mobile and digital payment methods.

Across the euro area, the general public and the tech-savvy reported they did not use smartwatches and wearables. Ownership of such devices was rare. Participants deemed as not necessary the use of smartwatches or wearables for payment given the plethora of other payment options (particularly ones that do not require the purchase of an expensive device). Participants also reported security and privacy concerns in relation to using smart devices, due to a lack of trust in technology companies compared with banks when it comes to financial and data privacy issues.

Security and privacy concerns also emerged for mobile apps. Participants were concerned about having a device hacked or stolen and therefore losing the ability to pay. There was also a lack of awareness about mobile app options, and some were reluctant to make the effort to learn to use them.

Prepaid cards were rarely used. This was reported as being due to high fees, the complexity of use compared to other payment options and the high maintenance with recharging requirements, etc. They were perceived as cumbersome, not widely accepted and viewed as unnecessary.

Older respondents were generally less likely to use digital payment methods. These were perceived as not needed, and participants were concerned about the security aspects of these methods, which were viewed as riskier. Perhaps unsurprisingly, **digital payment methods were also less popular in countries with a less mature technological environment**.

Popular and unpopular technological features

Tech-savvy participants were asked about desirable technological features offered by payment methods.

Tech-savvy preferred features that made payments convenient, fast and easy without compromising security. Contactless payment was highly valued, together with the use of QR codes. Multi-functional devices – for example integrating payment options with their phone and perhaps also other cards like an ID card or public transport card – were particularly appealing to the tech-savvy. A desirable feature was also the possibility to keep bank and card details private from merchants when making payments. This was the case of PayPal and other payment services like Klarna.

For tech-savvy participants, any methods or technologies that make payment complicated, that require too many steps, or are complex to set up were undesirable. For example, some participants in France disliked PayPal for these reasons. Lack of customer support in case of issues arising was also mentioned by the tech-savvy as a downside to digital payment methods. In some countries such as Malta, Lithuania, Ireland and Austria, participants valued services that allowed for an overview and traceability expenditure:

> "It is easy to lose track of payments. I had some unpleasant surprises in the past when I saw my expenditure of the previous month. Therefore, I like to check the overview on Apple Pay"
>
> Tech-savvy focus group, male, 18-65+, Austria

3.3 Backward-looking: analysis of factors behind recent changes in payment habits

General public and tech-savvy participants were asked if they had recently adopted a new payment method, and their reasons for doing so.

Across the euro area, few participants in either group had recently adopted a new payment method. Most of those who adopted a new method mentioned contactless payment options including contactless cards (either debit or credit), digital wallets (Google Pay, ApplePay) or mobile payment apps (e.g. Klarna, Revolut, regional apps like Payconiq and Satispay). Some had also recently started to use PayPal for online purchases. Unlike general public participants, the tech-savvy were much more likely to be regular users of digital payment methods for some time.

A review of the drivers to adopt a new payment method showed that neither the general public nor the tech-savvy were actively looking to change to new payment options. The general feeling was that there were sufficient payment options available with no real need for additional alternatives. The only exception was the tech-savvy group in Spain, who liked to be early adopters and were in search of new options. **The main driver for adopting a new payment method in both groups was need** – either the new method was the only option they could use in a certain situation, or their changing shopping behaviour meant they needed a new payment option. The latter was particularly the case during the COVID-19 pandemic when participants tended to do more shopping online.

Another key driver in adopting a new payment method in both groups was word of mouth from friends and family. Recommendation or encouragement from people in their social circle was reported as an important factor. Some of the tech-savvy became aware of a service because it was advertised by their bank or in shops.

> "A friend of mine used a digital wallet. I liked how effortlessly he made payments, so I asked him and some time later I did it too."
>
> Tech-savvy focus group, male 41-64, Greece

Among the tech-savvy, participants reported contrasting feelings in relation to the importance of the service provider in the decision-making process of adopting a new payment service. The provider was important to the tech-savvy in the Flanders region of Belgium, Estonia, Greece, Finland, France, Latvia, Lithuania, Malta, the Netherlands, Slovenia and Slovakia and in Portugal (if large amounts were involved). For these participants, the relationship of trust with the company or entity behind the service was important. Many expressed a preference for banks or other local or EU-based companies. For participants in other countries, the provider was not a relevant factor in the decision-making process.

Opinions were also divided about the role that value-added services play in the decision to adopt a new payment option. For some, these added services increased the appeal, but most of the tech-savvy considered them as a nice-to-have bonus rather than a key factor in the decision. Insurance was the most attractive added service, particularly in the form of buyer protection (e.g. as provided by PayPal and credit card providers), although some also mentioned travel insurance. Cashback, points that can be redeemed for rewards and special offers were appealing for some participants.

General public and tech-savvy participants who had not adopted a new payment method recently were asked what would persuade them to do so, and several factors were mentioned in the discussions. **Any new payment method would need to offer clear advantages over their current options.** It would need to be easier or more convenient, and more widely accepted than the methods they are using. For younger respondents, in particular, convenience was a strong potential driver to adopt a new payment method.

Echoing the comments of participants who had already adopted new payment methods, people who did not adopt a new payment method recently reported that recommendations from trusted family and friends would be important in persuading them to make a change. They also reported that a new method would need to be safe and secure, and this was particularly a factor for older respondents. Finally, some participants would be encouraged to adopt a new method if this was offering additional benefits, such as cashback, financial incentives, vouchers or other rewards.

4 TARGET GROUP: GENERAL PUBLIC AND THE TECH-SAVVY – RATIONALES AND TRIGGERS FOR ADOPTING NEW PAYMENT INSTRUMENTS

4.1 Key findings

This section provides an overview of the results of the consultations carried out through an online community with the general public and focus groups with the tech-savvy.

While Chapter 3 covers the rationale and triggers of past adopting behaviours, this chapter describes possible drivers that would lead to adoption of a new payment method in the future.

Both the general public and the tech-savvy felt they were already well-served by existing payment methods. **Rather than looking for something new, many participants were actively trying to reduce their payment options.** Therefore, providing a new option would not be a sufficient driver to adopt a new method.

For the general public and the tech-savvy, **a new payment method would need to offer benefits that simplify life**, such as allowing them to **combine multiple payment methods into one, giving financial oversight of all their accounts, providing spending reports or enabling them to set spending limits**. **Universal acceptance and instant payments** to both vendors and individuals would also drive the adoption, as would **contactless payment**, which was considered fast, easy and secure. Participants wanted the flexibility to attach this digital wallet to a device they already owned rather than buying a new one.

The tech-savvy in particular would welcome more advanced use of biometrics such as face, fingerprint or iris scans for payment authentication (which many thought were missing from their current methods) rather than relying on PIN codes or two-factor authentication.

When prompted on potential providers, participants indicated that they would prefer a bank or central bank. These were considered more trustworthy, reliable, and safe. A European entity as provider was also favoured, with the common perception that this would be well-regulated being the main motivator. In addition, a European entity would be expected to have the capacity to provide an EU-wide solution. Few participants prioritised a feature helping to control what personal data on their payment behaviour was shared with their bank for commercial purposes.

4.2 Forward-looking: possible drivers leading to the adoption of new payment methods

Both general public and tech-savvy participants were asked to imagine a future where most payments would be digital. Participants were presented with a new payment option called a digital wallet. The concept of a digital wallet was used to help people to envisage what a new digital payment might look like and to imagine what this experience could mean for them, without expressly mentioning the digital euro. This approach was taken to avoid bias in the responses and to ensure that the discussion would focus on the features of a potential new payment method. Participants were then asked to think about what features of the hypothetical digital wallet would be key for them and what would drive them to adopt it.

The digital wallet was described as follows: an electronic device or gadget such as a smartphone, a card, a watch, or chip that would have a software program, such as a smartphone app, that would allow them to make electronic transactions.

In both groups, the overarching feeling was that the availability of wide-ranging options for payment was sufficient to cover their existing needs. Therefore, they struggled to imagine additional features that would convince them to adopt a new payment method.

However, one common theme emerged among both the general public and the tech-savvy: participants would appreciate if the **digital wallet was a "one stop shop" solution**. They would not be interested in an additional payment option, but rather in a new method that would either replace most or all of the current methods or combine them into one system. Participants would find a digital wallet that allowed them to manage all bank accounts and cards in one place appealing. This would streamline financial management, giving access to a range of payment options on one device. Being able to choose the payment option according to the situation was also reported as desirable.

> "There could be a way to unite all bank transfers, online shopping payments and physical payments. Right now you have to log in to an online bank to make a transfer or use their app, for online shopping you have to insert your details. There is also PayPal, where you can add multiple cards. You can also pay with your phone, there are also several options (Apple Pay, Google Pay, etc). Such a mess! There could be an app tied to your phone and your watch, which identifies the payer and then you can make easy payments wherever."
>
> General public online community, male, 41-64, Estonia

Convenience was deemed crucial. The digital wallet should be user-friendly, fast and easy to set up. It should be widely accepted both online and offline for all types of payments. Ideally, the wallet would be small, or able to be included in an existing device. The tech-savvy in particular would not welcome a solution requiring the purchase of a new device, preferring to integrate the wallet into one they already own. Consequently, the tech-savvy would appreciate a wallet that is available on a broad range of devices and operating systems, so users are not tied to a particular option. Phones were a common preference, but jewellery such as rings, glasses or some other small everyday items like a keychain were also mentioned as possibilities. Some participants also liked the idea of the device being implanted so there is no need to carry anything extra at all.

> "Since I'm married, I'm thinking about my wedding ring that I wear 24/7: a mini chip implanted in the ring or a mini chip that I stick inside my ring. This would be the best thing for me because I could pay for all my daily purchases, like at the bakery or the bookstore."
>
> General public online community, female, 18-40, Belgium (fr)

For the tech-savvy, it was important for the digital wallet to be accepted everywhere and to allow instant payments to be made to both individuals and vendors. This was deemed a key point: the instant payment between all users regardless of the bank or digital wallet used by recipients would offer a novel feature compared with the existing payment methods and would be a driver for adoption.

Although, as an introduction to the exercise, participants were reassured that security aspects such as fraud and hacking protection could be taken as granted, **safety and security were among the essential features most often mentioned in both groups**. This included the privacy of personal data and protection from fraud and hacking, as well as secure and reliable authentication for payment. Contactless payment was also an essential feature for boosting the appeal of the digital wallet. The ability to verify payments via biometrics was popular, and many participants thought this was missing from their current options. This included face or fingerprints, as well as iris scan technology and voice recognition. **Fingerprint and iris scanning were particularly appealing to the tech-savvy, with some participants raising the issue of face ID not working in the COVID-19 era of mask wearing.**

> "Security is most important, and a biometric security check is safe but not always accurate and needs to be improved, especially since now with COVID I cannot take off my mask."
>
> Tech-savvy focus group, male 18-40, Greece

> "Paying via an app should not only be fast and convenient, but I want absolute transparency and security for my personal data and my credit card or account details. Just like in a retail shop, I want to receive a receipt with all the details by email after each payment."
>
> General public, online community, female, 41-64, Germany

Services allowing for budgeting or spending controls were of broad appeal in both groups. Although some participants saw this as essential, for others it was just a nice-to-have feature. Options discussed included the ability to block unusual purchases, the facility to see transactions, or being able to combine all accounts on one device to give an overview of the overall financial situation. The ability to set spending limits or budgets was also considered nice to have, as were transaction reports or detailed statements.

Other features less widely mentioned were the ability to use the device with or without an internet connection, a device that would not need a battery or recharging, that would be free to use and would provide value-added services, such as cashback or discounts. The latter was particularly frequently mentioned by the tech-savvy in Cyprus, while Greek participants would welcome the wallet allowing the integration of existing reward schemes already held on cards. Some tech-savvy participants would also like the wallet to include smart methods such as QR codes or the scanning of bills.

4.3 Exploring in detail a potential new "digital wallet"

In addition to the spontaneous characteristics of a new digital payment instrument described above, general public participants were provided with a list of prompts to comment on for each of the following topics:

- Provider of a new digital payment method
- Adopting and onboarding
- Usage features and extra features
- Ways to make payments

Preferred digital wallet providers

Participants from the general public were explicitly asked about their preferences in relation to the providers of the new digital wallet. The options given were a European entity, bank or central bank, or a big technology company like Facebook, Google or Amazon. The general public expressed preference for a bank or central bank, closely followed by a European entity. In each country, at least one of these options was the most favoured as provider.

The option of a bank or central bank[7] was favoured, as this was considered more trustworthy, reliable and safe, more effectively controlled and with sounder financial experience than a European entity or a big technology company. Some in the general public considered banks and central banks as less commercial, and therefore more focused on benefiting citizens. For some participants, the ability to provide local customer service was also important, likewise, the familiarity and local nature of these institutions.

There were also other reasons for preferring a European entity, with some overlap with the reasons for preferring banks. Participants perceived that **a European entity would be bound by European laws and well-regulated, making it a safe and secure option for financial and personal information**. Participants also thought that the European nature of this entity would be more likely to allow the seamless use of a digital wallet across the EU.

Big technology companies were generally the least preferred provider. Participants reported not trusting them with personal or financial data and considered large companies less reliable. Some shared the view that these companies already have a lot of influence and control over personal lives and see no need to give them additional information and control.

> "This service raises the question of trust and credibility, which is why a private (and therefore primarily commercial) institution seems the least appropriate."
>
> General public online community, male, 41-64, Luxembourg

Even among the digital natives, preference for big tech providers was not widespread, except in Slovenia and Cyprus, where younger respondents considered big tech companies as innovative and able to provide better solutions due to their technical knowledge. In fact, across the euro area, innovation and flexibility were the main reasons advanced by those in the general public who would prefer big tech providers, followed by the global nature of these companies making wider acceptance of the wallet more likely.

Adopting and setting up the digital wallet

The general public preferred to be able to set up their digital wallet at home rather than in person at a bank. This option had broad appeal across demographic groups, although it was slightly less popular with older participants. At-home set-up was seen as more convenient and safer, particularly as many reported difficulties getting an appointment with banks due to the pandemic or because of the distance to the local branch. However, many of those who preferred at-home set-up said this depended on good instructions and an easy-to-follow procedure. Some wanted the option of in-person or helpline support in case of problems. Similar views were expressed by the tech-savvy participants, who also preferred to set up their wallet at home.

General public participants who preferred setting up their wallet with face-to-face support in a bank were more likely to be elderly. They valued assistance to ensure the correct setting up of the wallet, as well as instructions on how to use it. This sub-group often lack confidence in the digital environment. In-person set-up was the first choice for participants in Slovenia.

The tech-savvy were asked about the initial identification process for a digital wallet. Similar to the process of logging into the account, preference was expressed for biometrics or QR codes to confirm identity, while PINs and other codes were less popular. Regardless of the method, participants felt that it must be secure, and many wanted two-factor authentication. In a number of countries, including Spain, Cyprus, the Netherlands, Portugal and Finland, tech-savvy participants wanted ID verification via existing bank or national ID documents. This was to avoid having to re-enter the information that had already been verified by the existing systems. Some participants were happy to upload ID documents online, but in Germany and Latvia there was a preference for doing

[7] This was treated as one item (bank or central bank) in the question posed to participants.

this in person. Some participants imagined video authentication via smartphone as part of the process.

The tech-savvy preferred an onboarding process that is quick and seamless, with speedy authorisation.

> "It has to be fast; I don't want to wait for two days like I had to for my PayPal access."
>
> Tech-savvy, female, 18-40, Austria

Using the digital wallet

For the general public, the most desirable characteristics in using the digital wallet were:

- acceptance by all merchants, in-store and online stores, regardless of the size of the transaction;
- wide acceptance across the euro area, to avoid using other payment methods when travelling across countries; and
- easy to navigate and understand.

Some participants wanted to be able to use it without a network or internet access, but this was perceived as less of a priority, while relatively few participants prioritised something that works on their smart devices, like a card or with an app.

The general public participants were also prompted with potential extra features for controlling expenses and personal data that might be included in a digital wallet. Many expressed preferences for a wallet that would make it easy to monitor expenses and manage spending.

> "It is very important for me to know the state of my bank account and to know the upcoming expenses. I make a lot of 'unplanned' purchases and I need to know if my balance is sufficient to make this new purchase."
>
> General public online community, female, 18-40, France

Still on the topic of money management, some participants liked the idea of being able to label and organise expenses to obtain a clearer overview of their finances. This was generally a more appealing feature than recurring payment reminders based on payment behaviour.

Few participants prioritised control over what personal data on their payment behaviour was shared with the banks for commercial purposes.

Making payments

With regard to making payments with a new digital wallet, contactless payment was the main priority for the general public. Instant transfers, including those from person to person, were also highly desirable. Participants wanted the option of confirming and giving permission before payment, but opinions differed as to how this should happen. Some participants mentioned a PIN or one-time password (OTP), while others would prefer biometric confirmation, such as face or fingerprint recognition. In general, the younger the respondent, the less likely was the preference for a PIN or other less convenient verification methods.

Most tech-savvy participants wanted biometric authorisation using face, fingerprint or iris scanning, but some preferred two-factor authentication, for example a combination of biometrics and a code. However, most disliked the idea of multilevel authentication as it was deemed a burdensome procedure for users to switch from the app to a text and so on. The use of PIN codes for authentication was viewed as dated and cumbersome, and QR code-based authentication also had little appeal. There was a general consensus that authentication methods should vary by amounts. Lower value payments – e.g. under €50 – should not require authentication, just a swipe, while larger value payments should require authentication. The tech-savvy expressed a desire for the possibility to set their own authentication limits, and some suggested the wallet should also learn from previous occurrences.

> "For example, if I pay on my credit card, it doesn't have to request verification. But if it is, for example, a payment that exceeds the limit I set, then yes. In order for the application to learn. If it's a recurring payment, then no. But if it's also something new, a new payment, then yes."
>
> Tech-savvy focus group, male, 18-40, Slovakia

5 TARGET GROUP: GENERAL PUBLIC AND THE TECH-SAVVY – USER EXPERIENCE: REVIEWING THE DESIGN FEATURES OF A POSSIBLE “DIGITAL WALLET”

5.1 Key findings

This section provides an overview of the results of the consultations carried out through focus groups with the general public and the tech-savvy.

As discussed in the previous chapter, all general public and tech-savvy participants were asked to imagine a future where most payments are digital, and there was a new payment option called a digital wallet. This chapter explores the opinions of participants in the general public and tech-savvy focus groups about a number of potential features of this digital wallet. These features were financial privacy, funding, person-to-person payments, acceptance, risk-freeness of a digital euro as central bank money, and, for the tech-savvy groups, conditional payments. These features were presented to participants in the focus groups using scenarios including a definition of the features. These are discussed below in order of relevance for participants.

Participants were most interested in digital wallet features that could reduce their current portfolio of payment methods. **The most important of these features for the general public was for the digital wallet to be accepted everywhere across Europe and worldwide.** A single universally accepted payment method would simplify life and would be a powerful driver for adopting the new wallet.

The other key feature for both the general public and the tech-savvy was instant person-to-person payments. Although many reported using person-to-person payments already, they felt that none of the current options allow for instant payments. Even more appealing would be a digital wallet that allowed these payments regardless of the platform or device used by the payer and payee. A digital wallet offering these capabilities would be very attractive and would promote switching.

A medium level of financial privacy is preferred for the new wallet, as it avoids the restrictions imposed by the high setting and the advertising found with the low setting. However, most participants say privacy is not a key feature. They assume that no truly private digital transaction is possible, so privacy is not something they really think about. Nevertheless, most participants would like to have the choice to opt for a privacy level according to the payment situation.

Views about funding the digital wallet vary. The most common preference is for manual top-ups, but with payment reminders when the balance is getting low. In this situation, participants are happy to sacrifice a little convenience for more control. However, some participants – particularly among the tech-savvy – would prefer their wallet to be topped up automatically, either based on a minimum balance or a set top-up amount. It is worth noting that some participants think that having to fund a wallet at all is old-fashioned and more complicated than their existing payment options.

With the tech-savvy only, the notion of conditional payments was discussed. This is deemed nice to have, but it is not a key feature and would not motivate them to adopt a new payment method – particularly as many already have this feature in their existing payment options.

The digital wallet must be able to provide additional features with low or no fees. Instant payments, universal acceptance and risk-freeness are non-negotiable features. The concept of risk-freeness was appreciated, although it would need careful communication.

5.2 Acceptance

To probe the importance of acceptance, general public participants were given the following scenario:

> *Anna likes to shop in small independent shops and cafés in her town and abroad in the euro area, but also in different shops online. So far, she often had to use different payment methods as some of the smaller shops did not accept her apps and different online shops accept different payment methods. Her new digital wallet is accepted by nearly all physical and online shops.*
>
> *Acceptance means that you can use a specific payment method, for example the new digital wallet, in many different situations (for purchases online, in conventional shops - small or big - or for temporary market stands) or geographic areas (for example in your own country or in other European countries) and for big or even smaller sums.*

Acceptance was a key issue for participants across all countries and in all demographic groups. Many reported acceptance issues with their current methods, both offline and online. For example, some shops refuse card payments below a certain value, some only accept certain means of payment, and some do not accept digital payments at all. As a result of these experiences, being able to use a single payment method that is accepted everywhere was very appealing and would be a powerful driver to adopt a new payment method.

> "There is a certain amount of anxiety as to whether people will accept your card or not, and where the nearest ATM is. If you knew that everywhere accepted it, there would be greater peace of mind. It would also be more secure than carrying cash."
>
> General public focus group, female, 18-40, Ireland

> "If it was accepted everywhere, it would be amazing, because you really wouldn't have to carry a regular wallet, you would only need a mobile phone, smart watch or a ring, and you would be able to pay everywhere."
>
> General public focus group, female, 41-64, Slovakia

There was some scepticism as to whether a kind of pan-European or universal acceptance would be possible to achieve.

> "In an ideal world, this would make sense, but that's utopian."
>
> General public focus group, male, 18-40, Austria

> "It seems to me impossible to agree on one specific application. Even with sockets, there is no single solution so far. How are they going to agree on this financial application in a coherent way? I can't imagine. But I totally support the idea of having such an opportunity."
>
> General public focus group, male, 41-64, Estonia

Some participants were concerned about possible fees and charges they might incur, particularly if payments were made outside the EU.

5.3 Person-to-person payments

Person-to-person payments was a very appealing feature for participants in the general public and the tech-savvy groups, particularly among the 18-40 years old age group. However, many already used person-to-person payments through existing payment providers (including PayPal, Revolut and individual banking apps) for example for splitting bills with friends, paying or repaying friends and giving money to family members. Although this feature would encourage the uptake of new payment methods (as was the case in Ireland with Revolut), many providers already offer this service, and, therefore, it would not be enough to motivate the adoption of a new method. In some countries, like Finland or Estonia, offering person-to-person payments was essential for any new payment method to be considered and adopted.

> "I am already using MobilePay, even at farmers' and flea markets. It is very handy and almost everyone has it. What is the difference here?"
>
> General public focus group, 41-64, female, Finland

However, participants who made person-to-person payments using existing services reported several issues. First, payments are not instantaneous. Even in countries like Finland, where participants were used to person-to-person payments, a truly instantaneous feature was seen as novel and extremely useful. In the case of bank transfers, it can take one or more days, and the system was seen as complicated, requiring long IBANs and other details. If they were instant, person-to-person payments would be a key feature and a driver for adoption.

For those who used other services, such as apps, to make person-to-person payments, the other main drawback was that payments can only be made across the same application. Being able to make these payments irrespective of the system the other person uses would be a novel and highly desirable feature that would motivate participants, especially the tech-savvy, to adopt a new digital wallet.

5.4 Perceptions about financial privacy

Three different privacy settings for the digital wallet were described to participants in both the general public and the tech-savvy groups: high, medium and low. Participants were asked to discuss what they liked and disliked about these settings and which one they preferred. Each of these options is discussed in detail below.

It is worth noting that many participants among the general public and the tech-savvy reported not thinking about privacy when making payments: there is a general assumption that much of their purchasing is tracked. Many, particularly the tech-savvy, felt it impossible to have a private digital transaction. Participants frequently remarked that they have nothing to hide, so it does not matter if the bank sees what they buy.

> "I don't see why I'd care so much about privacy. I don't buy anything suspicious, I'm not a criminal or a politician. If someone wants to know what I buy, that's OK. My life is interesting, but my purchases are boring."
>
> General public focus group, 41-64, male, Slovenia

> "Well, I have no idea of my privacy settings… but I definitely don't care if my bank knows what I purchase, I mean, it's my bank, I'm taking it for granted…"
>
> Tech-savvy focus group, 41-64, male, Italy

High privacy

Participants were informed that in the high privacy setting:

- users would need to download money to the wallet before a transaction;
- the wallet would be usable even when there is no internet or phone connection;
- payments remain private as long as they do not exceed the legal limit for compliance with anti-money laundering and combating the financing of terrorism legislation and are in offline/prepaid mode;
- the wallet could only be used for lower value payments (e.g. <€150) and not for online shopping;
- payments are not listed in the bank/app statements with the details of the purchases, but only as a lump sum deducted from the balance;
- a receipt from the merchant is required as proof of the transaction, the same as if paying in cash.

The high privacy mode was appealing only to few participants in the general public and the tech-savvy groups. First, the cap of €150 was seen as too low for it to be useful. In fact, some participants reported a desire for privacy in the case of high value payments rather than small amounts for day-to-day purchasing. Second, most considered it old-fashioned to have to download money before a transaction, which would add an extra step not required by existing methods. These two factors together meant that most people believed that a high privacy digital wallet would not be an advantage over cash or other payment methods and would be less user-friendly. Another reason why the high privacy mode was unpopular was that it could not be used online.

Participants also did not appreciate the fact that in high privacy mode they could not track spending or obtain a detailed overview of transactions – something provided by the current payment methods.

The main attraction of the high privacy setting was the offline availability. However, there were questions about how such offline payments could be implemented. Another appeal of the high privacy setting was keeping financial details secret. Some participants reported using PayPal specifically to keep payment details secret from merchants when shopping online. Others appreciated the possibility of keeping sensitive purchases hidden, for instance from insurers or their employers. Some participants would choose high privacy if the limit was higher, and if it provided an overview of balances and payments.

The high privacy mode was most appealing to those participants who prioritised privacy, being self-employed or referencing undeclared incomes. It was least appealing to those aged 18-40 and more attractive to older participants, particularly those aged 65+.

Medium privacy

In a second scenario, participants were presented with a medium privacy setting for any transactions, online and in physical shops, without the need to download money beforehand.

As regards handling of payment data, in the medium privacy setting:

- the user's bank stores the user's personal data and monitors the transactions, including for small amounts, but only accesses and shares them with legitimate public authorities if this is required in the context of anti-fraud or anti-money laundering legislation;
- detailed information about purchases is not collected or stored by the bank.

The medium privacy option was the most broadly preferred across the euro area and across demographic groups, both for its advantages and because it avoids the limitations of the high and low settings. Medium privacy was appealing because there were no restrictions on where the wallet could be used, and it did not require pre-loading, while still enabling users to monitor purchases and control expenses. However, for the majority of both the general public and tech-savvy participants, the real benefit of the medium privacy mode was not being targeted by the bank with additional services, as would be the case in the low privacy setting.

Low privacy

Finally, participants were probed on a low privacy setting. The low privacy mode could be used for any transaction, online or in physical stores, without the need to download money beforehand. In the low privacy setting:

- the bank stores the user's personal data and monitors their transactions for sharing with legitimate public authorities, if required;
- the bank can actively use this information for marketing purposes, for example for advertising, to offer the user additional services like financial analyses or credit/loans or, with the user's consent, to offer discounts in shops in exchange for the transfer of anonymised data about their consumption habits to these shops;
- the user can access a detailed overview of their purchases in their account statement, which is also visible to the bank.

The overwhelming feeling in the general public and the tech-savvy groups was that this lacked advantages compared with the medium setting and had many disadvantages. All participants disliked the idea of marketing and being targeted by advertising campaigns and felt that they would want to be compensated for sharing such detailed information. No participants were attracted to the idea of discounts in shops in return for using the low privacy mode. The only exceptions were participants aged 18-40, who would be happy to receive this kind of targeted advertising.

Preferred option – medium privacy

The balance between usability and the ability to track transactions without exposure to bank advertising meant the medium privacy option emerged as the most widely preferred option for a new digital wallet. In addition, discussions revealed that many participants would prefer to be able to choose for themselves the privacy setting that best meets their needs or the needs of the payment situation or occasion. This idea was particularly popular with the tech-savvy.

> "Banks know everything about our transactions; let's not bury our heads in the sand. The idea is to have the choice of high privacy but also some flexibility, so you don't run out of money."
>
> General public focus group, male 18-40, Greece

5.5 Possible funding options

Participants in the general public and the tech-savvy groups were given the following scenarios as the basis for discussions on how to fund the digital wallet:

> *Anna finds going to an ATM time-consuming and relies on her new digital wallet for her purchases because she can refill it online via a weekly/daily automatic transfer from her bank account or via an App as long as her bank account has sufficient funding. The new digital wallet can hold any amount up to a maximum of 3,000 EUR. For her, the automatic refill of her new digital wallet is very important since it saves her time.*
>
> *Alex, on the other hand is more concerned about controlling his expenses and prefers to refill his new digital wallet manually when he thinks its level is low for the purchase he intends to make. This can be easily done online, with an App or even via his beloved ATM. Alex could also set an automatic reminder to refill his new digital wallet when it goes below a certain level. By not opting for the automatic function he needs to monitor his balance to make sure he has sufficient money on his new digital wallet.*
>
> *The scenarios talk about funding: this is the way of recharging/refilling/loading a payment method. For example, putting a certain amount of money on a pre-paid card, PayPal or the new digital wallet (or filling your wallet with cash).*

The discussion on funding illustrated the different ways participants view the digital wallet. Some saw it purely as a cash replacement, particularly those who made less use of digital payment methods, including segments of the general public such as older participants, and those in less digitally mature markets. **Others imagined the digital wallet as something they would use more broadly across a range of payment situations and occasions.** These participants were more often found among the tech-savvy and in more mature digital markets. However, the way they viewed the wallet was likely to influence the way they thought about funding, and particularly how they felt about a spending limit of €3,000.

Across the euro area, both the general public and the tech-savvy groups would prefer to fund the digital wallet manually, but with reminders when the balance falls to a certain level. The attraction of this option, across all demographics, was based on the **desire to maintain control over finances** and decide when and by how much to top up the wallet. Some also felt that manual filling was a more familiar, cash-like situation. Unlike the situation with privacy, in this instance, many were willing to trade convenience (automatic top-ups) for greater control. Having a balance reminder was a desirable feature.

> "I would want to decide for myself when I top up and how much, but I would find it helpful if, for example, I only have €10 left […] that I then get the reminder […]."
>
> General public focus group, female, 18-40, Germany

During the discussions, many participants questioned the whole idea of reloading or topping up their wallet. They felt it creates an extra layer of complication compared with existing payment methods and wondered why they would adopt a method more complicated than the quicker digital payment solutions already available.

Although manual top-ups were generally preferred, the tech-savvy were more likely to support automatic top-ups, feeling that manual top-ups were a backward step that are either no better or less user-friendly than existing payment methods. The preference for automatic top-ups was most widespread among participants in Finland and Malta. In Finland, however, participants also saw value in the manual option in certain circumstances, such as loading a child's wallet with pocket money. Those in favour of automatic top-ups appreciated not having to worry about running out of money in their wallet.

> "I always set aside €50 to put in my Revolut every week, and to be honest I would find it useful if it was just automatic, it would save me a bit of time."
>
> General public focus group, male, 18-40, France

Those who favoured automatic top-ups valued the convenience it provides. Some participants wanted an option to set the automatic top-up to maintain a certain balance in their wallet, while others would prefer to be able to set minimum and/or maximum amounts to add.

here was some support for having both options available for use according to the circumstances. However, whichever option is chosen, the top-up method should be simple to use, and the money available instantly.

Discussions about the €3,000 holding limit in the digital wallet proposed in the "Anna" scenario produced a variety of responses. In some countries with lower average monthly incomes, such as Slovenia, Slovakia, Italy and Estonia, participants saw the limit as too high. In contrast, in countries with higher average incomes such as Austria and Luxembourg, the limit was considered too low. In general, however, responses to the limit tended to reflect the personal financial situation, though many participants would like to be able to increase or decrease it, like with a credit card.

Neither funding option emerged as an incentive to adopt new payment methods, and in fact, for many, the manual option would be a strong disincentive

5.6 Conditional payments

To facilitate a discussion on more advanced potential features of the digital wallet, tech-savvy participants were given the following scenario:

> *Anna likes to donate as much as she can to her favourite NGO that supports digitalisation projects for young people in her community. To do this, she has set-up a conditional payment in her digital wallet. Any time she goes grocery shopping, the amount she pays is rounded up. For example, if the bill is 5.89 EUR it is rounded up to 6 EUR by her digital wallet. The difference, 11 cents, is automatically transferred to the account of her favourite NGO, without Anna needing to take action. This happens every time she shops in that store, as this is the way she has set it up herself. In the same way, Anna has programmed monthly payments for her household bills and magazine subscriptions to take place on a certain date every month.*
>
> *With the new digital wallet comes a function to program payments and to set up conditional payments yourself. This is a triggered payment action, like an automatic donation or a payment triggered by an event such as refilling your car at the gas station.*

Many tech-savvy participants reported widespread use of conditional payments via bank accounts or apps such as Revolut or Satispay (IT). Therefore, this was deemed a basic feature that should be included. Most used this feature to pay regular bills, others to make regular savings. Other participants found the whole idea confusing and could not imagine how such a system might work or how they would use it.

Payments that were conditional on certain events – as in the scenario above – were seen as more novel than programming payments for a certain day/time. Participants who liked the idea of conditional payments would use the feature to add money to a "digital piggy bank", rather than for charity donations as in the example, could still see the attraction of the option. Others, however, were concerned about the loss of control over monitoring transactions.

Participants who liked the idea of programmable and conditional payments would welcome the possibility to set the details up themselves rather than have pre-programmed options. Overall, most tech-savvy participants considered conditional or programmable payments interesting and appealing, although these would not be a driver for adopting a new digital wallet.

5.7 Understanding of the concept of "risk-freeness"

General public and tech-savvy participants were presented with a feature specific to the digital euro, namely its characteristic of being "risk-free" central bank money, described as follows:

> *A central bank digital currency is the corresponding electronic form of banknotes and coins, which are the central bank money in physical form – in Europe, euro banknotes and coins. A central bank digital currency is issued by the central bank and regulated and "protected" like banknotes and coins. It can be used for the sale and purchase of goods and services in everyday life.*
>
> *Central bank money is risk-free money, which only a central bank can create and guarantee. All other forms of digital money (for example money on current accounts) is commercial bank money. This money could theoretically be seized if the banks went bankrupt.*
>
> *This is a fundamental difference between commercial and central bank money because the central bank – in the euro area the ECB and the [insert local NCB] – cannot run out of euros, making the digital currency intrinsically safer than any private sector counterpart.*
>
> *In this context, risk-freeness means that the central bank cannot go bankrupt, while banks can (even if governments in Europe guarantee deposits up to €100,000, which are then made available to clients of defaulting banks within a few days).*

Most participants among the general public did not fully understand the difference between central bank and commercial bank money, particularly in relation to the concept of money being risk-free. This is perhaps because most considered the money in their commercial accounts to be risk-free, as deposits up to €100,000 are already guaranteed in the event of a bank failure. Few participants reported holding higher amounts, and those who did tended to use multiple accounts to remain below the threshold in each individual account.

> "Does this mean, that all commercial banks will be closed and everything will be handled by the ECB? Will interest rates be abolished?"
>
> General public focus group, male, 18-40, Austria

> "What I do not fully understand in this description is the freedom from risk of the central currency against the currency of the private sector. After all, it is not the currency of the private sector, the euro is the central currency. The private sector does not put the euro into circulation, it only deals with it."
>
> General public focus group, male, 41-64, Slovakia

Tech-savvy and general public participants engaged in a discussion about the difference between central bank and commercial bank money. They generally remained uncertain about the difference between the two. For many, the idea that the digital euro would be issued by the central bank has no impact, beyond the perception that it would be safe and secure. However, they also felt this way about money in their commercial bank account given the public deposit insurance of €100,000. **As trust in the country's banks in nearly all countries was high, participants mostly felt there was no need for a guarantee from the ECB.** In some countries, such as Finland and Italy, a few participants even reported that if it comes to the point where the ECB needs to start guaranteeing deposits, they felt that Finnish and Italian people would not be the first concern of the ECB. For these participants, a digital euro issued by the central bank would not have benefits in terms of perceived risk.

Some interpreted the fact that the digital euro would be issued by the central bank as a move by governments to acquire greater control over their financial dealings, as well as to manage tax evasion, fraud and the black economy. Some also interpreted this as a move to phase out physical cash. Others wondered if this would mean having an account with the central bank and closing the commercial bank accounts – an idea that had little appeal.

Some participants from the tech-savvy and general public groups found the idea of the central bank issuing the currency completely irrelevant, particularly if they saw no difference between the central bank and a commercial bank.

Some participants were more attracted to the idea of risk-free central bank money as they had greater trust in a central bank. This is particularly the case in Cyprus and Portugal, which experienced commercial banking crises in the past, and for older participants, particularly those over 65.

> "You have the security of the central bank. It is like you are transacting through them. With commercial banks in Cyprus we still remember 2013".
>
> General public focus group, male, 41-64, Cyprus

Among general public participants, there was widespread unwillingness to pay to increase holding limits of risk-free central money in digital euro, mainly because people already felt they have up to €100,000 risk-free in their bank accounts. This is particularly the case as the digital euro was seen as something for day-to-day spending rather than saving. In this scenario, most found a holding limit of €3,000 more than sufficient given the day-to-day nature of personal spending.

Some participants were actively hostile to the idea of paying for holding digital euro. This is either because they believed there should not be a cap on holding amounts in digital euro, or because they would not earn any interest as opposed to keeping the money in saving accounts. A few participants would be willing to pay extra if the charges were less than on their current bank account or if deposits held in digital euro were earning interest.

.

6 TARGET GROUP: GENERAL PUBLIC AND THE TECH-SAVVY – KNOWLEDGE AND UNDERSTANDING OF THE DIGITAL EURO

6.1 Key findings

This section provides an overview of the results of the consultations carried out through the online community with general public and tech-savvy focus groups.

Among the general public and the tech-savvy, there was little awareness of the digital euro. As a result, participants expressed a need for **more information about "why" it is needed, and "how" it differs** from the euro kept in bank accounts and spent electronically via apps or bank transfers. Primarily, participants would need **functional, practical information about the digital euro**. There is a need for more details about how it would work in everyday life, including where it could be used, and whether there would be costs involved. Participants also had questions about the security of the digital euro and the privacy of their financial information.

However, based on the information provided during the focus groups about the digital euro, participants liked the fact that it is not a cryptocurrency and is backed by the ECB. This was considered an added value in terms of safety, regulation and stability. Participants also appreciated the idea of contactless payment across Europe. The main dislike was that it was assumed to mean the end of physical cash, while others considered it a further invasion of privacy and likely to lead to increased bank and government control in daily lives.

For the general public and the tech-savvy, financial information, in general, and information about the digital euro in particular should be provided across a broad range of channels. These include local banks, mainstream media, especially television and the press, the financial press, and press and institutional websites. As the recommendation of friends and family was important, word of mouth would also be an important source of information.

6.2 Prior knowledge and awareness of the digital euro

Awareness and spontaneous associations

The awareness of digital euro among participants was first explored with an unprompted discussion.

In general, awareness of the digital euro was low among respondents. Very few general public and tech-savvy participants reported having heard of the digital euro prior to the focus group. Participants with some awareness tended to be over 25 and were more often men than women. Awareness was marginally higher among the tech-savvy, but still low overall. Even fewer participants had a clear idea of what the digital euro is, believing digital euro to be a cryptocurrency like Bitcoin. Some assumed it was a digital version of cash.

General public participants with some awareness of digital euro were likely to have heard about it in the media (TV, radio, press) or via the internet (online papers and magazines). Only a few participants reported hearing about the digital euro from friends or from banks or specific financial news sources. Many, however, could not recall the source of the information.

From the spontaneous associations with the digital euro that emerged during discussions, two themes became clear: **participants associated digital euro with a cryptocurrency and/or believed this was a digital money designed to replace cash**.

The most common spontaneous association with the digital euro was with cryptocurrencies. This was primarily among the general public, but also the tech-savvy to some extent. This association was often negative, as cryptocurrencies were perceived as connected to crime, fraud, insecure value, a lack of security, and greater risk. Some participants reported more positive associations, as digital euro would be managed by the ECB.

> "I'm not sure if I've heard of this before. Spontaneously, I have the idea that this is a digital currency created by the ECB that will eventually replace the euro as we know it today. Elimination of cash, more transparency and traceability."
>
> General public online community, male, 18-40, Germany

Another common theme in both groups was that the digital euro was a digital currency that can be used to purchase online goods and services, a new electronic form of money that would replace physical cash. Some described it as a blockchain-based technology that would replace money. It was also associated with electronic payment methods like mobile payments, payments via smart devices and the evolution of payment methods.

> "Is it something like Bitcoin but issued by the ECB, a way to say goodbye to cash?"
>
> Tech-savvy focus group, 40-64, female, Italy

Understanding the digital euro

After the initial unprompted discussions, respondents in both groups were given the following description of a digital euro:

> *We live in a digital era… There is a growing demand for digital solutions in all aspects of our lives.*
> *This includes the way people spend, pay and invest and leads to rapid changes in the world of currencies and payments.*
> *Central banks around the world are working on digital currencies – an electronic form of money. The Swedish Central Bank is investigating the possibility of issuing an e-krona, the People's Bank of China has launched a pilot of the digital yuan and also the central banks of Switzerland, Saudi Arabia, Hong Kong and many others are analysing the topic.*
> *Central bank digital currencies are not cryptocurrencies! Without going into the details of what a cryptocurrency is, be aware that cryptocurrencies like Bitcoin are not issued by any central bank and their value changes over time – meaning you could lose your money once you buy them.*
> *A central bank digital currency is the corresponding electronic form of banknotes and coins. A central bank digital currency is issued by the central bank and regulated and "protected" exactly like banknotes and coins. It can be used for the sale and purchase of goods and services in everyday life.*
> *In line with many other central banks, the European Central Bank (ECB) and the [include local central bank] are thinking about launching a central bank digital currency in Europe to respond to the increasing demand for electronic payments in a safe and trusted way. And guess what is this going to be called? …the digital euro.*
> *The digital euro is still a "work in progress". Right now the ECB is looking into how to best design this new digital currency so that it takes into account what European citizens would like to have.*
>
> *You may ask yourself, why do I need a digital euro if there is already a euro? As digitalisation progresses, the digital euro will support innovation in the payment process in Europe in a safe and trusted way.*

Responses to this information in the general public groups were mixed. After reading the description, respondents generally rated their understanding of the idea of a digital euro as poor to average. Digital natives and the more technologically literate, in particular those who already used electronic payment methods, generally found it easier to understand the concept of a digital euro.

At the heart of the confusion about the digital euro was the fact that neither the general public nor the tech-savvy participants could see the difference from what already exists. How would this digital euro be different from the money held in bank accounts (which some considered to be digital money) or in banking or financial service apps? The difference between these "cashless euro" and the digital euro was unclear to participants.

> "In what sense is it different from the money in a bank account? To me it is not quite clear how it relates to the current way of having money."
>
> General public online community, male, 40-64, the Netherlands

Part of the lack of understanding related to users' attitude towards the uptake of new payment methods. As discussed above, participants were **satisfied with their existing methods and rarely have crucial unmet needs**. Participants struggled to see the need for a digital euro, what unmet needs this would satisfy, and how it would fit with existing payment methods. Many believed that digital money already exists, as stored by banks in some electronic format, electronic transfers via apps, mobiles or bank transfers. The distinction between money in central banks and commercial banks remained unclear to many in both the tech-savvy and the general public groups. Participants tried to relate the digital euro to their understanding of the existing situation, and as a result they failed to see advantages or benefits, or the rationale for a digital euro.

> "What is the difference between a euro that I pay by card, transfer, using my PayPal account or with my watch, and the digital euro that I will use to pay by card, transfer, using my PayPal account or with my watch?"
>
> General public focus group, male, 41-64, France

Some respondents in the general public group still found the concept vague and confusing and would need more information to really grasp the concept. This confusion was particularly evident in the general public and in countries such as Finland, Ireland, Luxembourg, the Netherlands, Spain and Italy. This confusion was also notable in Slovakia among older and younger participants. The explanation convinced some participants that the digital euro was not a cryptocurrency, but for others this association persisted, e.g. in Lithuania.

Those who thought the digital euro would replace cash were confused about how it would work if there were no electricity or if they were offline, as well as how they would pay for things for which they currently use cash, such as donations. They were also concerned about the implications for those who are not digitally connected, including the disadvantaged or the homeless.

Digital euro likes and dislikes

General public participants were asked what they liked and disliked about the description they were given of the digital euro (as detailed in the previous section).

Participants appreciated the fact that the digital euro is not a cryptocurrency and is backed by the ECB. This was considered an added value in relation to safety, regulation, security and stability. Participants felt the digital euro could be trusted because of the backing of reliable and well-regulated institutions like central banks. The fact that the digital euro would have the same value as the physical euro and no exchange rate was considered positive.

People liked the possibilities offered by the digital euro, particularly **cashless payments throughout Europe and its use for regular payments**. Some welcomed the fact that citizens were consulted and their views taken into account.

Some also welcomed the possibility that the digital euro could reduce fraud and crime, tax evasion and the black economy. Many embraced the move to digital as something that will make financial transactions faster and easier, while others saw digitalisation as inevitable. Some also welcomed the idea of moving away from cash altogether.

In general, negative and neutral feelings about the digital euro among the general public are based on the fact that participants saw neither a benefit in nor a necessity for its introduction, given the current environment in which people already use electronic methods for many transactions.

The most frequently mentioned drawback was the idea that the digital euro would mean the end of physical cash. This was a concern for participants on a number of grounds. Many worried about elderly and less technologically literate people. The move to a digital currency was seen by many as a further invasion of privacy, giving banks even more access to their personal data and spending habits. There was a concern the digital euro could be used as form of surveillance and control, in contrast to physical cash.

> "I am all for the idea of the digital euro, but I just wouldn't want to see cash being wiped out altogether. As the saying goes cash is king!"
>
> General public focus group, male, 18-40, Ireland

"Everything will again be under the control of the bank, no more possibility to make a partially unreported transaction. I don't like the idea of knowing that our privacy in terms of our purchases and spending will be totally controlled by the national central bank."

General public focus group, female, 41-64, Belgium (fr)

"It is not a big surprise, but I think lots of work is needed to explain the concept to current digital users and to solve technical problems (hardware, software, security, identification, converting different currencies and managing international payments). Many older people still use cash for everyday payments, and they are not ready to learn new payment methods or do not trust digital payments due to security concerns."

General public focus group, female, 65+, Estonia

Some participants also questioned who would profit from the introduction of a digital euro, while others expressed concern about increased ECB control in local markets. Some worried the introduction of the digital euro could lead to absolute bank and state control over all financial transactions and linked this to a potential increase in political control and more authoritarian government. The use of China, Saudi Arabia and Hong Kong in the descriptive text had negative implications for some participants.

Some participants from the general public expressed concerns about the possible impact of the digital euro on inflation and on financial institutions, the possible adverse impact on individuals' finances and some sort of economic upheaval. Others were concerned about the loss of independence in their country's financial policy.

6.3 Exploring information and communication aspects

Preferred information channels

General public participants were asked about the information channels they preferred to use for financial/economic information, and how they would like to receive information about the digital euro.

In many countries, banks were the preferred source as they are considered a reliable source on financial matters. Mainstream media, including TV, radio and the press (particularly the financial press), were also widely preferred as a source of information about the digital euro, particularly for broader or more general overviews. Internet news sites such as press and magazine websites were also popular sources. Official bodies such as the government, the ECB or national central banks were mentioned less frequently. Social media were popular among some younger respondents and, more generally, in a few countries, such as Estonia, Portugal and Slovakia. In fact, many participants expressed concern about the reliability of information found through social media.

Further information requirements

The idea of the digital euro raised many questions among both the general public and the tech-savvy. One of the most consistent themes emerging from this discussion was the need for more information on a wide range of topics.

As discussed in previous sections, **many participants would need more detail on the rationale for a digital euro, i.e. why it is needed and the benefits**. Some participants also needed more information on how it differed from cryptocurrencies and the euro that they currently used via payment apps and electronic transfers. Many participants were also concerned about whether cash would still exist in parallel with a digital euro.

Questions about the practical day-to-day aspects of the digital euro were common and included:

- How it will be accessed (e.g. what devices) and used for payments in practice?
- How it will be implemented, and will it be made compulsory?
- Where it will be accepted? Will it be used for transactions across Europe? What about outside Europe?
- Will it work with existing systems, or will new systems be needed?
- How it will work offline or if there is no electricity?
- Will charges, costs or taxes be associated with its use?
- How it will interact with existing commercial bank accounts?

Many participants questioned the safety and data privacy aspects, including how the security of their digital euro would be ensured, who would have access to their private financial information and how this data would be protected. Participants reported the need for a clear view of the potential risks in the event of the adoption of a digital euro.

Finally, some participants raised more technical questions, including how the value of the digital euro would be set and maintained, how stable it would be, the potential consequences for the economy and for individuals if it were introduced (e.g. inflation, the value of investments).

7 TARGET GROUP: MERCHANTS – ATTITUDE TOWARDS THE ADOPTION OF NEW PAYMENT METHODS, KNOWLEDGE AND UNDERSTANDING OF THE DIGITAL EURO

7.1 Key findings

This section provides an overview of the consultations carried out through focus groups with micro and small merchants to investigate the current use of payment methods and knowledge of the digital euro.

The merchants who participated to the focus groups were small or micro business owners with fewer than 49 employees (small) or fewer than ten (micro); operating in the retail sector with a mix of online and offline business operations; accepting payments in cash, bank cheques, payments through mobile apps, online payment methods, banking apps, credit or bank transfers.

Merchants considered the digitalisation of payments as a major trend. Online payments have grown considerably over the past few years, and merchants reported being ready and willing to cater for these and provide the service to their customers, especially younger customers who demand more modern payment methods.

Most merchants had not heard of the digital euro and in general had low levels of awareness. When the concept of the digital euro was explained, merchants were either neutral or sceptical about the introduction of this new payment method and required clarifications about the concept of a digital euro. They would offer the digital euro as a payment if market-driven, in response to widespread customer demand.

Merchants accepted new payment methods mostly in reaction to customer demand. Merchants displayed an open and flexible attitude to accepting new payment methods. Adapting to what the customer wants guarantees the survival and future of the business. Widespread customer demand, the immediacy of payment and the agility of the process accelerate the acceptance of new payment methods. The main factors that traders consider first when introducing a new payment instrument were its associated fees and costs – such as service fees and terminal installation costs.

Fees were reported as an issue for merchants, particularly fees applied by credit card and digital payment providers. Merchants' preferences were for payment methods with the lowest costs for them. Nevertheless, to facilitate customer payments, they were likely to accept diverse types of payment. Overall, merchants reported that the trend appeared to be towards accepting a wider range of payment instruments, rather than a narrower one.

Overall, most merchants accepted a wide range of payment methods. Cash was still greatly valued among merchants in some countries (e.g. BE, IT, EL, CY, SK) due to the perceived lack of charges and the fact that it responded to the needs of their customers. In terms of digital payment methods, all merchants reported accepting debit and credit cards and many also accepted mobile and connected device payments. For merchants, the advantages of digital payment methods were the speed and reliability of the transaction, the convenience for both customer and merchant, and the existence of proof of payment.

In general, merchants seemed to be satisfied with the payment methods they currently use. Merchants valued speed, ease, reliability and customer-friendliness in the payment methods they use. Payments must be easy for the customer and the money must move as fast as possible.

Besides demand from customers and low fees, which remain the key drivers of acceptance, merchants looked for a series of features in new payment methods. Speed and the technical reliability of payments, effective customer service, better integration with their daily business activities, including their accounting systems, were all relevant to them. Security and safety were also appreciated, and particularly legal tender, and the risk-free nature of digital euro as central bank money.

7.2 The range of payment instruments that merchants accept

The wide range of payment methods used

In general, merchants accepted a number of distinct payment methods. These include cash, credit cards (mainly Visa and Mastercard), debit cards, cheques, online payment methods (PayPal, Klarna, SOFORT, eps-transfer), mobile-to-mobile payments and via banking apps (Revolut), bank transfers, and pre- and post-sale payment by invoice. Occasionally, they also reported accepting vouchers (Sodexo) and offering payments with mobile payment apps and cryptocurrencies (which was reported by few merchants).

Merchants appreciated methods which are safe, instantaneous, reliable and technically stable, such as mobile apps (mostly MBWay), electronic money schemes (such as PayPal) and cash. Digital payment methods which provide all the relevant information (customer, amount, date, etc.) in an appropriate accounting format were also welcomed. The offer of a variety of payment methods was driven by the desire to attract and satisfy customers.

> "Cash, then invoice payment, bank transfer. Also, payment by card, which is used more and more often."
>
> Merchants' focus group, male, 41-64, Slovakia

Some geographical variations in merchants' payment instrument preferences were observed as outlined below, particularly linked to the country's level of technological advancement and the degree of innovation in the local payment instrument market. In countries with a wide variety of payment methods available, such as Estonia and Finland, merchants noted a preference for digital payment instruments.

Likes and dislikes of particular payment methods

Despite the obvious trend towards digital payment methods, and the decline in cash payments over the years, cash was still greatly valued, and in some countries more than others. Cash was the main payment method reported by merchants in Belgium, Germany, France, Ireland, Portugal, and Slovakia. However, in other countries, such as the Netherlands, digital payments were the most common, followed by cash.

Cash was seen as entailing no charges, although banks have become increasingly expensive for cash handling and deposits. Cash was reported as having many advantages, especially for small in-store purchases. It was often driven by customer demand too, as sometimes customers prefer to make "non-visible" payments. Merchants explained that cash remained their preferred payment method because they considered it quick and reliable. Many spontaneously mentioned the advantage of not always declaring and paying taxes on cash payments. The use of cash was reported as allowing a sale to be settled instantly, leaving neither party with further commitments, such as the need to chase customers for payments.

> "Tax advantages, you can hide a lot with cash. It makes everything better; you can pay for everything with it."
>
> Merchants' focus group, male, 41-64 France

> "There's already enough coming at you and I don't want to go chasing after payments."
>
> Merchants' focus group, female, 41-64, the Netherlands

Some drawbacks in relation to the use of cash were also reported. These included the risk of forgery, the need for it to be deposited in the bank, and the security risks during transport. Merchants found the process of depositing cash from sales annoying and time-consuming, because of the need to go to a physical bank, and the bank procedures to ensure the legitimacy of the cash. Moreover, for many, the risk of theft when holding cash was a concern. It could also take merchants some time to take the cash to the bank and pay it into their account. This increased the temptation to spend it, and, in turn, the chance that it would not flow directly into the business.

Merchants saw debit and credit cards as a relatively safe payment method, avoiding the need to store cash in the shop and providing traceability and an automatic record of transactions, together with the direct deposit of funds into the bank account. However, merchants also reported many shortcomings with regard to cards, making them less popular than cash. These include cards' vulnerability to fraud; the need for a good internet connection; the fees merchants are charged for each transaction; the delays for payments to be cleared; and, in the case of online purchases, the risk of cancellation of payment from buyers after the dispatch of the product.

Merchants reported that credit cards were very popular among customers. Cards are easy to handle (especially online) and can be used worldwide, which was particularly attractive for those merchants with an international customer base. For merchants, it was easier to keep track of credit card payments than cash. In addition, customers paying with a credit card appear to be willing to spend more and to buy more items than when paying with cash. In addition, credit cards allow customers to pay by instalments, which is why some retailers added Diners' Club credit cards to the mix (although Diners' fees are considerably higher than those for other payment cards).

> "More convenience results in higher spending."
>
> Merchants' focus group, male, 41-64, Austria

On the other hand, credit card providers charge fees, and there is long wait for the money to arrive in the retailer's bank account.

> "It takes up to 10 days to actually receive the money."
>
> Merchants' focus group, male, 41-64, Slovenia

Bank transfers were perceived as easy, convenient, and suitable for international transactions, but the fact that these are not immediate means that the transaction can be cancelled by the customer. Some merchants pointed out that they only accept bank transfers if they really trust the customer.

> "With interbank transactions it's a problem when you cannot verify if a transaction is made. For 1-3 days in the dark about some payments coming through."
>
> Merchants' focus group, male 41-64, Greece

Merchants who use mobile-to-mobile payments through dedicated banking apps like the method for its instantaneity. Nevertheless, merchants reported that few individuals use this payment method and currently such payments must be made on one and the same platform (e.g. Revolut to Revolut). Some merchants also pointed out that international transfers are not possible and there is no receipt. These payment methods usually involve transaction fees.

PayPal was reported as widely used and accepted. It was considered the "ultimate" online payment method because it is easy to use for the customer and easy to implement for the retailer. The most frequently mentioned downside of PayPal was the considerable bank fee. Also, sometimes, it can take days for the money to arrive in the bank account, and the support centre is difficult to reach.

> "It's such a double-edged sword… I don't like using it, but customers want it. I've had very bad experiences with PayPal with funds being withheld."
>
> Merchants' focus group, female, 41-64, Germany

Nevertheless, PayPal was considered extremely attractive to customers, partly due to its safety features and money-back guarantee, while many merchants were also very satisfied with their PayPal relationship.

> "My online customers feel very safe when they use PayPal."
>
> Merchants' focus group, male, 18-40, Austria

SOFORT was better rated than Klarna. Experiences with and the image of Klarna were somewhat tainted.

7.3 Merchants' experiences of setting up and accepting new payment methods

General drivers and barriers when setting up and accepting new payment methods

Merchants reported a trend towards accepting an increasingly wide range of payment instruments, stimulated by customer demand. This was more pronounced in businesses with a high daily turnover of visitors (kiosks, mini markets, restaurants). Small businesses with a more focused customer base were more likely to offer a narrower set of payment options.

> "I want to give my customers different options of payment and the majority of them are happy to use their debit cards. Only a few young customers have asked me if they could pay by PayPal."
>
> Merchants' focus group, male 41-64, Greece

Thus, what merchants used for payments was reported as being primarily determined by customer preferences and needs. Merchants acknowledged that they would not proactively initiate a change in payment methods unless they were asked to do so by their bank or in response to customer demand, e.g. in the case of PayPal by younger customers. They have also begun to introduce terminals for cashless payments for the same reason. On the whole, they believed that they already offer enough payment methods to satisfy every customer and they were disinclined to incur the extra cost or effort required to accept additional methods that would seldom be used. Some merchants opted for a wider range of payment instruments to avoid "*losing customers*" and to "*move with the times and the demands of people*".

> "Paying should not be an issue at all, the customer should come in, somehow give me money, the issue should not be there at all."
>
> Merchants' focus group, male, 41-64, Germany

Merchants offered payment methods which were generally accepted in the market and commonly used by the majority of their customers. Across the board, retailers were keen to offer a range of payment methods to suit their customers' offline and online needs, depending on their profile and expectations. Merchants are phasing out legacy methods, e.g. cheques (only accepted when they know the individual personally, or in the case of a company cheque). The image of the business plays a role, as merchants believed it was important to keep up to date and offer the latest payment methods, so their enterprise is seen as progressive.

Merchants were conscious that accepting a wider array of payment methods allows them to better cater for a greater variety of customers. However, accepting many different payment methods was also perceived as potentially confusing, or requiring thorough organisation.

> "You reach more customers by expanding your range, but you also don't want to make it a hassle by having too many tools to manage."
>
> Merchants' focus group, male, 41-64, France

Preferences often depended on the size of the business and its ability to bargain with payment method providers. As long as the fees were low, card payments (credit card or debit card) were very popular, but if fees were perceived as excessive, merchants favoured cash or other cheaper options, such as bank transfers (depending on the type of business). Preferences were also determined by the type of customer (reliable regular customers vs. dubious new customers), the invoice amount, offline vs. online purchase, etc. Quite often, the most advantageous methods for merchants were not those preferred by customers, in which case merchants had to choose between potentially scaring off (new) customers and securing their own profit.

The merchants also reported that the COVID-19 pandemic had a significant influence on the variety of payment methods provided, reflecting changes in customer preferences.

> "It's the society we live in that asks us to do this, the digital revolution. We can't go against that."
>
> Merchants' focus group, male, 41-64, France

Widespread customer demand, immediate receipt of payments and straightforward processes accelerate the acceptance of new payment methods. These aspects were considered key by merchant participants. The main barriers to the acceptance of new methods were low customer demand, the financial charges and fees entailed for merchants, lack of knowledge about their operation, the possible need to invest in technology (terminals, POS equipment) and the time required to "get up to date". Merchants acknowledged accepting new payment methods to save money or offer better services to the customer, e.g. offering card payments via bank terminals even with a service fee, as this method was the customers' preference. Some new methods were accepted because of changes in consumer behaviour, e.g. increasingly widespread mobile payments.

> "A young person comes to the store, asks for your account number. You send him an email; he will make an immediate transfer to your company account, and you give him the product. It's very common among young people, they use more mobile phones to pay. They don't have a bank card they want to pull through the terminal."
>
> Merchants' focus group, female, 41-64, Estonia

The main factors that traders reported looking at first when introducing a new payment instrument are the fees and costs of the new method – such as service fees and terminal installation costs.

> "Just give me low fees and I will be happy."
>
> Merchants' focus group, male, 41-64, Ireland

> "Speed so that the money is directly in the account. Security, I am sure to get paid. And the installation won't cost me a fortune every time."
>
> Merchants' focus group, male, 41-64, France

The level of convenience provided by a given payment instrument was also important for merchants (e.g. no need to carry cash to a bank). New methods should preferably be compatible with their existing equipment, as new terminals or upgrades, in particular, were often reasons to reject such offers. The capacity to integrate a new solution into existing infrastructure was also perceived as important. For smaller businesses which run stand-alone systems, this may not be an issue. For other businesses with complicated software solutions that integrate POS systems and stocks, integration issues were even more salient.

> "We recently added Klarna to our portfolio which was completed in a few minutes. If it had involved more effort, we would have waited."
>
> Merchants' focus group, male, 18-40, Austria

Ultimately, new payment methods must provide an immediate close of sale.

The experience of recently accepting new payment methods

In summary, the key reasons for accepting new payment methods included customer demand, downgrading of cash during the pandemic, and obtaining a better deal with a new provider.

Few merchants reported having recently introduced a new payment method, but those who have done so cited customer demand as the main reason.

> "I have very little trust in Stripes (previous provider). I already had a personal PayPal account that I really trusted and so I thought I'd go with PayPal. And it's really very secure. There's also the payment in multiple instalments."
>
> Merchants' focus group, female, 41-64, France

The pandemic also changed needs for some merchants; for example, encouraging them to offer bank transfers.

Most merchants considered their current range of payment methods to be wide enough. Habit also played a part – if merchants were used to working with a given payment instrument, they had no reason to change it.

There was also a lack of knowledge, awareness, and trust in a new digital payment method (particularly with reference to mobile payment apps like Revolut). In addition, the merchants who had not adopted new payment methods did not want to pay bank charges (specifically, for the use of debit/credit cards).

The use of digital payment methods

Merchant participants had no preference between the various types of digital payment methods. All merchants accepted debit cards and many also accepted mobile and connected device payments, for the reasons described above. They did identify some issues with digital payment methods in general: it could take some time to receive the amount, sometimes the connection signal can be poor and, of course, the fees. Apart from the costs of digital payment methods, discussed above, merchants said the speed with which payments are cleared is of paramount importance for them, especially for capital-intensive companies which need to pay suppliers in advance or on receipt of goods. Such businesses prefer to use digital payments tools which offer immediate transfer of funds, as well as cash.

Feedback on specific digital methods included the following aspects.

- Revolut received positive comments due to its instantaneity and the absence of charges, a unique benefit as all other methods involve a delay and/or a charge (this was mentioned in France, Cyprus, Ireland and Malta). In addition, it is not tracked by local tax authorities, giving a sense of anonymity to those receiving funds. In this sense, it is considered to be the closest thing to cash, providing all its benefits.

> "It's the closest thing to cash, see it instantly and straightforward to put it into your account, you're in the minority if you don't have it."
>
> Merchants' focus group, female, Ireland

- While merchants benefit from the instant availability of inward payments, wide online acceptance and strong customer preference, the key drawback reported for PayPal is its focus on protecting buyers instead of merchants. Many merchants have often had money withheld for no good reason, and experienced considerable issues in claiming it back. PayPal also asks for very high fees. One person mentioned Klarna as an alternative that is even worse than PayPal because the money arrives months later, it is expensive and not many customers request it.
- Apple Pay and Google Pay were mentioned as being used only sporadically and by very few customers. When used, however, merchants experienced them as uncomplicated and easy, as well as safe.Bank transfers via mobile/internet banking were appreciated by merchants. Moreover, if the payment originates from the same bank, the amount is deposited immediately and there is an automatic electronic record of the transaction. However, such transactions were not preferred for interbank payments as they entail charges and a delay in clearing.

Credit card and digital payment fees constitute a problem for merchants. Their preference is for payment methods that entail the lowest possible cost to the seller. The issue of costs was assessed by merchants in relation to their profit margins. Therefore, several participants point out that they do not accept American Express or Diners Club. As most customers with these cards also own credit cards issued by other providers, this has not resulted in serious problems.

> "I don't accept Diners Club and American Express, their fees are way too high."
>
> Merchants' focus group, female, 41-64, Austria

> "They (payment providers) offer a pretty quick service, so it is normal that it should be paid for in some way." Merchants' focus group, female, 41-64, France

The fees charged by the provider were not entirely clear to every merchant, being determined by several factors which cannot always be influenced by the trader. Fixed fees also discourage seasonal sellers (who sell at temporary stalls), given that their sales vary or are seasonal. Fees and costs are understood but require in-depth review and are generally disliked for their lack of transparency. Digital payment methods, particularly PayPal, but also other providers like Amazon, Google, Apple or eBay, charge fees that are hard to anticipate and unclear. Merchants reported that they only discover the cost of a transaction afterwards which makes it hard to incorporate the fee in the price to the customer. Merchants also stated that it is essential to change the provider every two years to try to achieve better rates.

> "I got 0.5% knocked off rates with Stripe, I was paying 1.4% and a 25 cent fee per transaction, very high, over 2%. I had enough volume that they re-priced it. AIB were competitive, but their tech is weaker. I moved a website in the UK to Braintree and they gave us a 75% reduction. PayPal in Ireland don't care, I am giving 5% of gross margin to them. I looked at the end of year accounts and the bank charges column would frighten the life out of you."
> Merchants' Focus Group, male, 41-64, Ireland

> "Those fees are absolutely confusing, because I had the structure of the fees re-evaluated in the bank so that I know what is more advantageous for me… above a certain amount, there is a fee, then a transaction fee, then there is a fee for the credit card, debit card. For example, if they are customers of the bank where I have an account, those transactions are charged lower than if they were from another bank. This is so confusing that as a customer of their bank, I have no chance of finding a suitable scenario."
> Merchants' focus group, female, 41-64, Slovakia

Nevertheless, the main driver for merchants in adopting a new payment method was the facilitation of customer payments. Despite fees being an issue for sellers, they generally felt they have no other choice than accepting payment fees and they would not discourage customers from using their preferred payment methods, even when those entail accepting relatively high fees.

Experiences with digital payment providers vary. When payment issues arose, merchants deemed it important to be able to reach an expert quickly. Several participants complained about long and complicated procedures, incompetent staff who are unable to speak the language properly, etc. Therefore, dealing with just a few partners was perceived as helpful – either by using only a limited range of providers, or through the use of an intermediary.

The country in which the provider was based did not seem to be a relevant factor. For merchants, it was most important that payments work smoothly, although should anything inconvenient occur, merchants appreciated having a local contact at their bank. Previous experiences with digital payment providers were generally good, with some notable exceptions, such as PayPal. There seemed to be a slight distrust towards some of the providers, mostly when merchants could not trace their money.

> "We had sKash and we removed it because it was not requested a lot. But we also had trouble using it… its application was hard."
>
> Merchants' focus group, male, 41-64, Cyprus

Most important improvements in payment methods for merchants

The most important improvements for merchants were the speed of payments, technical reliability and better integration with their daily business activities. Good customer service, low fees, easily tracked payments and additional services (e.g. integration of accounting tools, cashback, bonus points, marketing activities for the introduction of a new payment service, etc.) were also mentioned. On the whole, all the pros and cons were reported as needing to be considered, as sometimes additional services or faster procedures could mean that an option with higher fees was still the better solution.

> "In an online store, each extra step can make the customer leave and not finish the purchase. And even in a regular store, time is money. Everyone can appreciate a simple and quick payment method."
>
> Merchants' focus group, male, 41-64, Slovenia

Instant payments were very attractive to merchants: in general, merchants did not appreciate waiting for the money to arrive into their bank account.

> "It is very important for my customers as well as my employees that transactions are fast and reliable. I need a stable system without interruptions or errors. It has to run smoothly and guarantee the cash flow."
>
> Merchants' focus group, male, 18-40, Austria

"When we have performed our service, but we have already paid for the material and at the end of the month we have already paid the salaries. If the customer then doesn't pay for the service you have provided… that is of course not pleasant. Then you sometimes end up in debt and have to overdraw your account."

Merchants' focus group, male, 41-64, Germany

"The reports of card payments issued by some banks are still relatively confusing. The accountant is working hard to find out who paid for what. Some banks issue the reports well, but the others bring out the total amount received from the customer together with service fees and other things, so this calculation takes time".

Merchants' focus group, male, 41-64, Estonia

Other ideas for improvement included:

- Offering a monetary incentive/cashback scheme to merchants.
- Capacity to integrate other functions into payment systems (i.e. issue of vouchers, tickets to events) in order to promote their use and create additional business for companies.

7.4 Knowledge and understanding of the digital euro

The trend of digitalisation

Merchants reported witnessing an increasing digitalisation of payment methods, though it was difficult for them to imagine an even bigger trend towards digitalisation. They mostly embraced the increasing digitalisation and felt it logical for payment methods to follow the trend. Most payments in their shops were already digital. As mentioned previously, MobilePay and PayPal were reported as being widely used. Merchants mostly saw this impact as beneficial, since they can more easily access international customers or customers paying in different currencies. They also felt that it was safer to keep less cash on the premises.

"In Estonia, people are a few steps ahead. They prefer to pay by card. I'm currently in Germany. Here they take the cash from the wallet immediately. Digitalisation elsewhere in Europe is not as fierce as it is in Estonia. If in Estonia we get things done with the Tax Board online and sign our declarations digitally, then being a German VAT payer, everything is still here on paper."

Merchants' focus group, female, 41-64, Estonia

This trend was also observed by merchants in countries, such as Austria or Malta, which are adopting digital methods more slowly than others (e.g. Scandinavia).

In recent years, merchants reported experiencing substantial growth in online payments, and therefore there was a general willingness to accept the trend towards digitalisation to match customers' demand. Merchants would offer the most popular payment method to attract more customers. This trend was expected to continue over the next 5-10 years, but merchants pointed out the importance of keeping cash and other payment methods as an option for their customers. They believed that digitalisation would have a great impact on businesses and would simplify payments.

Merchants reported already using e-payment methods offered by e-shops and convenient for their customers. If the payment method was difficult, multi-staged with various codes and verifications, payments might get delayed in the process.

In the face of intense competition from e-shops, merchants reported increasingly adopting payment methods used by e-shops. However, customers were reported as not being prepared to deal with such complexities and would shop elsewhere. For this reason, merchants have been trying to adopt the most common payment methods and the easiest to implement. From a merchants' perspective, they have had to follow societal trends and meet customer's needs.

> "It's not the merchant who will decide, but the customer who will decide if he wants to use this payment method or not."
>
> Merchants' focus group, male, 41-64, France

Accordingly, for merchants, the digitalisation of payments was inexorable. Merchants explained that it saves time by eliminating physical bank transactions; that mobile payments were increasingly preferred by young people, particularly Google Pay and Apple Pay, due to their great convenience – no need for any code, just hold a device nearby. The only drawback of these methods was the amount limit. Merchants believed that they would benefit from digitalisation by offering instant credit to their accounts and fast, seamless and effortless transactions.

> "Since Covid, customers have been encouraged to favour card payments instead of cash."
>
> Merchants' focus group, male, 18-40, Austria

Nevertheless, merchants found some aspects of this trend towards digitalisation a matter of concern.

The first of these aspects related to the fact that the growing diversification of payment methods can be overwhelming. The availability of so many payment tools, according to merchants, makes it impractical to adopt them all. Merchants preferred to adopt only those that are in wide use and most frequently requested.

In addition, for a few merchants, digitalisation immediately evoked the feeling that the payment system was becoming more unsafe, that there were more opportunities for abuse, such as phishing. Merchants would respond to customer demands for new payment methods, but would not take the lead. Another perceived problem was the power of digital payment providers, who could take advantage of retailers, charging them more and leaving them with no other options. Therefore, the outcomes for merchants would depend on whether there would be real competition or some kind of pricing balance in which retailers end up paying more.

> "Terrifying if cash evaporates and we only have digital currency, the central bank and the Government will know everything, giving up complete control. I like cash, my money my business. I hope this doesn't happen, if they do it alongside cash ok, but if not… I really hope that doesn't happen!"
>
> Merchants' focus group, male, 18-41, Ireland

Awareness and knowledge of the digital euro

Most merchants had not heard of the digital euro and in general their awareness of the digital euro was low. This was also the case in technologically mature countries such as Estonia and Finland. A majority had not heard of the digital euro before the session, and those who had, did not have a specific opinion to share.

Merchants were relatively indifferent to the idea of the digital euro. In the absence of any information about the added value for the entrepreneur, participants saw no real unique selling point for the digital euro. Some associated the digital euro with developments in the crypto market, others saw it as a means for central banks and governments to increase oversight and control over their citizens, and yet others perceived this development as an attempt to end the black economy.

Merchants did not regard the digital euro as particularly innovative:

> "That's nothing. There is no wow effect whatsoever."
>
> Merchants' focus group, male, 41-64, Austria

There was little knowledge about the digital euro even among those merchants who had previously heard of it. In Finland, this group thought it meant that the ECB would abandon cash, which they did not see as a problem as they already mostly receive digital payments. In Portugal, some believed it was different from a cryptocurrency because it is a centralised currency and will therefore inspire more confidence. Others deemed a digital currency necessary, as some retailers or brands already accept cryptocurrencies.

In addition, merchants had a number of questions and needed clarifications about the concept of the digital euro. These included questions such as: Will they have to pay to use this money? Will it coexist with the other payment systems, especially cash? Will they teach merchants how to use it? Will they have to invest in new technology?

When prompted, the immediate reaction of merchants was that digital euro would mark the start of reducing or removing the use of cash completely. Some, as a first reaction, assumed that it was intended to increase control over fraud and money laundering. Merchants also wondered whether the offer of this type of payment will be compulsory. Merchants were not in favour of making the digital euro compulsory (especially if it involves fees), but, ultimately, they would offer this payment method at the request of customers. If merchants were asked to accept the digital euro, they will do so reluctantly based on the currently available knowledge.

> "They'll push it down your throat," "we have to," "you can't say yes or no."
>
> Merchants' focus group, male, 41-64, the Netherlands

> "In fact, they want to take away cash at all costs (…) to control everything."
>
> Merchants' focus group, female, 41-64, France

Like other participants, merchants did not understand the difference between the digital euro and the euro they were already using in digital form, or between digital euro and a debit card. It was seen as one more source of money, like having different accounts with different providers. For those who trade outside their own country, it was unclear how the payment would be different when the buyer pays in US dollars or digital euro.

The merchants also wondered what would happen to commercial banks if the central bank launched a digital euro. Would people withdraw all their money from commercial banks? Would the ECB replace commercial banks? Are we not transferring too much power to the ECB? Will the digital euro have the same value as the current euro? Will it cause inflation?

In sum, merchants lacked clarity on the granular detail and how the digital euro was distinct from, for example, debit card payments. A whole series of further questions emerged: How will it work in practice? What is an "actual" digital euro? What is its purpose? Is it fast? Will there be a charge to use it? Will it perhaps be more secure as it is backed by the central bank? My money is already digital, how is this different? What if you have no access to the internet/blackspots – how will digital euro work in this instance?

Merchants would accept the digital euro as a means of payment if consumer demand increased to the point where it could no longer be ignored, but not otherwise. They saw a digital euro as just one more alternative.

> "We will need to accept it if it is used by many." "Nobody will force us to adopt it. We will be forced by the market."
>
> Merchants' focus group, male, 41-64, Cyprus

> "I would not introduce it voluntarily, only if several of my customers ask for it."
>
> Merchants' focus group, female, 18-40, Austria

Merchants were relatively cautious and slightly sceptical about a digital euro, given the current lack of information, but, in principle, they did not oppose its introduction. If the market demanded a digital euro-based payment method, merchants would adopt it.

Merchants would also want to understand how the digital euro would work before offering it to their customers. They reported the need to understand better how it differs from other payments, and the benefits vis-à-vis other payment methods. Nonetheless, once consumers start to adopt the digital euro as a means of payment, merchants would offer this possibility, especially those already offering a wide range of digital payment options. However, those merchants who currently only offered their customers the opportunity to pay by cash would only accept the digital euro if there were no alternative (i.e. if cash were phased out). Nonetheless, there was a consensus that more information and awareness is required.

Merchants would want more and better communication (with tangible examples), easy handling and transparency so that users feel safe, assured quality and reliability (technical standard, support) and state-of-the-art security. In general, the ECB was perceived as quite a slow institution and not as a modern innovator. Therefore, merchants expressed scepticism about the outcome.

7.5 Features of real-time settlement, legal tender status and perception of risk-freeness

The merchants' focus groups discussed the features of instantaneity, legal tender and risk-freeness. These aspects were significant for merchants in adopting a new digital payment method such as a digital euro.

Views on instantaneity

The element of instantaneity in payment was seen a strong point and a factor motivating adoption. Improved cashflow management, security, avoiding non-payment, meeting other expenses/bills, or even being able to offload a product without having to wait to receive the transfer, were all attractive aspects. Instant payments were deemed important for improving cash flow and liquidity and helping companies remain healthy.

Provided there was no substantial increase in service fees and no need to purchase equipment incompatible with their existing systems, instantaneity would therefore be the most relevant improvement and an essential driver for the adoption of the new payment method. A few, however, were more sceptical, saying either it already existed or it sounded too good to be true. Indeed, a couple have had bad previous experiences with providers who promised instant payments.

> "I do believe it could work, perhaps not instant, but a few hours."
>
> Merchants' focus group, male, 41-64, France

While the concept of instant payments was spontaneously identified as attractive and relevant, retailers do wonder whether the central banks will have the right skillset, and especially the technical capability that distinguishes fintechs, to roll out a digital euro. Merchants would need reassurance in this area.

Views on legal tender

In general, most merchants had no objection to supporting the digital euro as a legal tender for payments and would accept the digital euro as such. Thus, merchants would accept the introduction of a digital euro guaranteed by the ECB, finding the proposition credible and beneficial due to the instant payment feature and the assumed elimination of commissions and charges for payments.

The legal tender component would be supported, as retailers believed they would have little choice. They have no suspicions and remembered the adoption of the euro. However, the effort involved must have to bring some reward, and following the conditions addressed above, the number of people who use it should somehow be guaranteed, and it would need to be exempt from charges.

> "I will accept it, I don't understand the point of it but if the central bank says it's necessary then I will offer it, I will have to…."
>
> Merchants' focus group, female, 41-64, Ireland

Views on risk-freeness of digital euro as central bank money

Like the general public, merchants widely regarded central banks as more secure, with better guarantees and payment protection. However, they felt that their deposits were also safe in commercial banks, as few believed that banks would go bankrupt. In general, there was a high level of trust in the country's banks. Merchants found their commercial banks trustworthy, and many had established relationships with their advisors.

> "We already trust our banks enough."
>
> Merchants' focus group, male, 41-64, France

Having a payment method that is risk-free was relevant for merchants, and it reassured businesses in the initial phases of adoption or change. The fact that digital euro would be issued and backed by the ECB could also be advantageous in increasing the acceptance of a payment method, which could make it even more attractive.

When it comes to security, the introduction of the digital euro should be accompanied by top-level protection from hacking so that it becomes a widely used, safe, payment method.

> "It must be secure and simple, both for buyers and sellers. Data protection is very important."
>
> Merchants' focus group, male, 41-64, Germany

Merchants welcomed risk-free central bank money issued by the ECB as long as it did not incur costs and provided there is the possibility to contact the central bank in case of issues. Merchants often made the comparison with cash, stating that the new payment method would need to be at least as safe, if not safer. While some saw increased data protection as a potential benefit, others worried that the ECB would then know all about their business dealings, which would make them uncomfortable. These merchants would prefer the ECB not to know their exact payment flows.

Once again, in-depth education and a presentation of the advantages and disadvantages of this payment method are needed.

Other key driving factors

The reported key driver in the adoption of the digital euro by merchants was customer demand, as discussed above. It would also need to be easy for retailers to receive such payments, for instance by scanning something with their phone (e.g. QR code) or by using their existing technology. It should also be easy for customers to start using this method of payment because, as already mentioned, merchants would not implement it for a small group of people, so it would need to have wide public acceptance.

> "When 5 to 10 customers come and demand the digital wallet, we'll start thinking about it. But not before that."
>
> Merchants' focus group, male, 41-64, Slovenia

In summary, merchants would be happy to accept and offer this payment method – if customers wanted to use it and as long as the fees were not higher than other payment methods. Abandoning other payment methods that fall into disuse would likely follow.

Merchants who did not currently offer digital payment methods would only be convinced if cash goes out of circulation and they were left with no other choice.

> "It's not the merchant who will decide, but the customer who will decide if he wants to use this payment method or not."
>
> Merchants' focus group, male, 41-64, France

If merchants were no longer obliged to accept cash, and other payment methods disappeared, they would be open to supporting the digital euro. However, additional fees were reported as undesirable.

Receiving a payment in a fast and secure manner was an important feature, although not as important as customer satisfaction and convenience. The digital euro should also be simple for merchants to introduce. Many participants mentioned security for both merchants and customers as a particularly important feature, as well as transparency and trustworthiness, though some also suggested that not having charges would be the real attraction:

> "I mean, if it's free of fees for us, this is the main novelty, something they have to underline in their ads… rather than security!"
>
> Merchants' focus group, female, 41-64, Italy

8 TARGET GROUP: UNBANKED, UNDERBANKED AND OFFLINE – CURRENT PAYMENT HABITS

8.1 Key findings

This section provides an overview of the results of the consultations carried out by means of one-to-one telephone interviews with the unbanked, underbanked and offline participants.

"Unbanked" participants are those who do not have a bank account, while the "underbanked" might have a bank account but rarely make use of banking services and rarely or never use a payment card. "Offliners" are participants who use the internet less than once a month or never, and rarely or never use digital payment instruments. The results were derived from 89 individual interviews with unbanked, underbanked and/or offline individuals in the euro area. Where appropriate, information about differences for a specific profile were reported in the results; otherwise, the research results cover all three profiles, unbanked, underbanked and offliners.

Different reasons for being unbanked, underbanked and/or offline were reported. The main reasons usually related to life circumstances, lack of technical skills, and emotional barriers such as distrust of banks, reluctance to use the internet and digital banking tools, or adverse banking experiences in the past. Frequently this was simply related to age, as older people reported primarily using cash. The unbanked reported cash as being their main payment method, which is seen as the most accessible, most trusted and safest form of payment, as well as the simplest to manage. Debit cards and digital payment methods in general are the least preferred and used in a very occasional and measured way.

Overall, this target group was generally reluctant and unreceptive to new digital payment methods. This fact can be explained by a lack of interest or need. This was evident in all countries. A significant issue was fear of loss of control and independence. Some expressed concerns about security and safety, while others were resigned to the increasing digitalisation trend and considered the adoption of digital payment methods inevitable.

As the fear of technology and safety and security issues were the main sources of reluctance, some participants could be won over if these problems were resolved. First and foremost, participants feel that a significant level of initial support would be needed to set up a new digital payment method, preferring face-to-face support to teach them how to use the device step by step, and visual guidance.

The key characteristics of a new digital payment method which would make it attractive were identified as its being free, safe and secure. Ease of use, for example, the possibility of offline usage without an internet connection, was frequently mentioned, as was the easy facilitation of fast or instant payments.

The unbanked participants in general had not heard of the digital euro. They showed little interest in this concept, which they found abstract and unimaginable. The reference to "digital" was overwhelming. Conceptually, it was understood as an evolution of the euro in the new digital age, but they felt distant from the proposal. The information they would like to receive about the digital euro related to its advantages vis-à-vis the euro in its current format (notably cash) and other payment methods and the clear benefits it might have for them.

8.2. Barriers to financial inclusion

The interviews identified different reasons for being unbanked, underbanked and offline. **The main reasons usually related to life circumstances, lack of technical skills and strong emotional barriers.**

Among the more functional or rational barriers, participants reported particular life situations leading to being unbanked, underbanked or offline. Examples of such situations mentioned in the interviews included personal bankruptcy, long-term unemployment and the consequent lack of steady income, being paid in cash, moving to another city and not changing the address, using parents' bank accounts, or reliance on the main breadwinner to address all household expenses. In some cases, it was also the case that the main earner in the household was self-employed (farmer, builder) and was used to operating on a cash basis.

> "I get paid in cash, so it is easier for me to pay my bills and manage my money that way."
>
> In-depth telephone interview, unbanked, female, 18-40, Ireland

Another frequently mentioned functional barrier was the lack of technological skills to safely use the internet. In particular, older participants were no longer willing and saw no need to learn new things and skills, especially those that were not perceived as necessary for life – such as the use of the internet. In Cyprus, these participants tended to have a lower educational level and to reside in rural areas. They were accustomed to cash payments, had lived most of their lives without using digital technology, and did not see the added value of learning this new skill. Moreover, their lack of understanding of digital concepts, and often a previous unsuccessful attempt to try out a new digital payment method without support, influenced their decision to not use digital payment methods if possible (as long as cash is available).

While some of the participants owned digital devices, they tended to use their smartphones and electronic devices to communicate with friends and peers with basic platforms and applications, while younger people's use of these devices extended to social media apps such as Snapchat and Facebook.

Participants also experienced significant emotional barriers to the use of banks and payment instruments and/or the internet and digital tools.

The first emotional barrier to the use of banks was distrust, mostly due to a perception that banks charged high fees in return for poor services. Participants had also experienced aggressive marketing practices that alienated them. In addition, distrust of the authorities with privacy and security concerns motivated some to remain unbanked or underbanked.

Indeed, participants rarely used payment methods provided by their bank (e.g. debit cards) due to issues with these methods in the past. Some who previously had current accounts and debit cards no longer did so because of high fees, particularly in comparison with a free interest-bearing savings account and withdrawal card.

> "I don't have a bank account anymore, the bank was charging me fees when I wasn't using it and sending me arrears notices, when I went in to complain they cut up my card, I swore I would never have a bank account again."
>
> In-depth telephone interview, Unbanked, female, 18-40, Ireland

An additional emotional barrier to the use of payment methods provided by banks was that some participants felt an intense need to control and manage their spending. In fact, a few had experienced compulsive buying or overspending. In this respect, cash was still thought to provide the best form of control and independence.

> "I am committed to doing what my father did and advised to do, which is to pay by cash. It is the only way to keep control of one's expenses… There is no way I will trouble myself with remembering PINs and checking my accounts through the internet, I want to keep my life simple and make my payments on my own, so I know where I stand financially."
>
> In-depth telephone interview, unbanked, female 41-64, Greece

> "It is because of stuff that happened in my past; it is hopefully temporary, while I learn how to better manage my budget."
>
> In-depth telephone interview, underbanked/offliner, male, 41-64, France

The last set of emotional barriers was related to the use of the internet and digital applications. Given that these participants were recruited particularly because they were unbanked, underbanked or offline, some were very reluctant to use the internet. In their experience, digital devices took too much time away from other activities – time that participants were not interested in spending online. Some criticised the high level of connectivity with smartphones and devices. This was observed across all ages, particularly among those who lacked technological knowledge or who were more traditional in outlook.

> "I just think it is a bit of a waste of time, I only use the internet on an ad hoc basis, when I go travelling and I need to do research for instance."
>
> In-depth telephone interview, underbanked/offliner, male, 41-64, France

These participants often felt no need to learn how to use the internet and digital devices. They were accustomed to their habits, did not feel the need for new technologies, and/or feared that new technologies were beyond their comprehension and would need too much assistance.

> "I stick with the options I have as long as I can."
>
> In-depth telephone interview, underbanked, male, 65+, Austria

In addition, some participants made a conscious decision to move away from using the internet, due to unhealthy or quasi-addictive behaviour.

> "I was too addicted – I'm 30, so I grew up with the internet and I became too addicted, I couldn't live without it, and again money-wise I was using way too much data."
>
> In-depth telephone interview, underbanked/offliner, female, 18-40, France

Some reported tentative use of smartphones for internet access, but, having found it challenging, they stopped trying. New payment methods were seen as too complicated and would mean asking for assistance and explanations.

> "I'm familiar with Revolut, but only because my daughter uses it. I'm not allowed to use apps because I usually mess them up and she refuses to help me do it."
>
> In-depth telephone interview, underbanked, male, 41-64, Ireland

The key barriers for using payment cards and banking apps were concerns about privacy and security. Participants were concerned about how their personal payment data were being used and who had access to them. In addition, digital payments made money intangible and it could be stolen or removed from the bank account by a simple mistake. Participants also found such payments to be less personal.

> "I have a fear of technology. I don't trust it; I have the feeling they can steal all the data."
>
> In-depth telephone interview, underbanked, female, 65+, Slovenia

One payment method that made participants particularly anxious was contactless. Many have heard from friends or on the news that some people used card readers on the metro, for instance, to hack people's cards.

> "I would never use contactless – I've seen stuff on the news about how people go around the metro with card readers and they can just hack into people's cards when they have contactless."
>
> In-depth telephone interview, underbanked/offliner, female, 41-64, France

Interestingly, Cypriot interviewees observed that COVID-19 tended to push the participants towards digitalisation, given the limits imposed on movement and visits to public spaces such as bank branches. Banks were forthcoming with issuing debit and credit cards during that period to facilitate digital payments, but these groups used such instruments solely for cash withdrawals from ATMs and not for direct digital payments.

8.3 Payment methods and work-arounds used by the unbanked, underbanked and offliners

Cash was the main payment method used by unbanked, underbanked and offliners. Offliners, in particular, did not own smartphones, making it difficult for them to use any methods other than cash. The exception to this was Luxembourg, where the underbanked and offliners' main payment method was credit or debit cards.

> "In grocery stores, I pay all smaller amount with cash. Only if I have larger amounts over €100 then I will pay with an EC card. I buy a little every day, so cash is better as I don't want to check everything I have spent at the end of the month. With a card I always have to look what is debited from my account, with cash that is not necessary."
>
> In-depth telephone interview, unbanked/offliner, female, 65+, Germany

As in the case of the general public discussed earlier, the main drivers of this strong preference for cash was that this is seen as a simple, trustworthy and safe method. In addition, it was considered convenient and it was the only method ever used by these participants. **But, more significantly, in terms of the emotional barriers to the use of banks, these groups reported that cash gave them a high sense of ownership and control.** Participants appreciated the physical nature and the sensory experience of holding and touching it; this contributed to a feeling of security and control. Participants believed that cash enables them to keep better track of expenditure and control their spending behaviour.

> "I like knowing exactly how much I've spent and how much is left in my bank account."
>
> In-depth telephone interview, offliner, 65+, Slovenia
>
> "I just prefer paying by cash because its handier for me, and on the chance you could get scammed, I trust cash more."
>
> In-depth telephone interview, unbanked, male, 18-40, Ireland

> "Money is always money… it's real!!! You can touch it and feel it is real… Only with real money can you have absolute control… all other means need monitoring."
>
> In-depth telephone interview, unbanked, male 41-64, Greece

In addition, offliners in particular, preferred cash due to concerns over privacy, security and safety of other payment methods. While some respondents were not afraid of technology and new methods, others feared that their lack of technological literacy could lead to errors when using banking apps and digital payment methods.

> "You know, on TV at Striscia la Notizia there is frequent news about hackers, scams, online data stealing, and I don't want to be swiped."
>
> In-depth telephone interview, unbanked, 41-64, male, Italy

> "Privacy is extremely important for me. I buy local in small shops and at markets, I spend carefully. I use cash whenever it is possible to make a statement pro cash. I believe authorities want to abolish cash soon, just as they did in Sweden already."
>
> In-depth telephone interview, underbanked, female, 41-64, Austria

In most countries, debit cards and other digital payment methods were the least popular among the unbanked, underbanked or offliners, and used mostly in the case of an emergency. These participants tended to use credit cards only for emergencies and instalment payments, if indeed they had them at all.

Underbanked people lacked awareness of other payment methods (mobile payment apps, internet banking, etc.). Although other payment methods were discussed, there did not appear to be a standout "least favourite" method. Methods such as cheques, credit cards, and debit cards were seen as means that should only be used to pay monthly utility or emergency bills. Participants were very critical of cards for multiple reasons, including the fear of lack of control, concerns about theft or fraud, and excessive charges from financial institutions.

> "I do have a credit card, but I haven't used it in months and have it as a backup in case something has to be paid in an emergency. I suppose I prefer cash because once the transaction is done, it's over and I know where I am after paying x, y or z."
>
> In-depth telephone interview, underbanked, male, 41-64, Ireland.

The interviews identified a number of strategies used by the unbanked to cope with the need to use other payment methods. This involved asking relatives or friends for support, using an ATM to withdraw cash, and making bank payments in person or by phone. The unbanked usually had their salaries paid into the account of relatives or a friend, and they would withdraw the entire amount and use it to make their regular payments and purchases. They also rely on family members to buy online and reimburse them with cash or by bank transfer.

> "I do have kids who are grown up now, so I can ask them when I need to buy something online."
>
> In-depth telephone interview, underbanked/offliner, female, 41-64, France

Offliners were used to paying by card or withdrawing cash from an ATM and then using cash to pay all their monthly expenses. Regular payments for housing and utilities were usually made in the form of a postal cheque or a direct debit from their account.

In some countries (e.g. Greece, Slovenia, Spain), the underbanked reported enjoying visiting the bank and saw it as a sort of ritual in their everyday lives. This cannot be replaced by online banking, even for those offliners who were prepared to learn to use it. Some participants, mainly non-working or older people, liked the idea of having a reason to leave the house, and visiting the bank branch could be a pleasant "social event" for elderly people, who reported not wanting to lose the "human touch" and contacts.

> "I want to keep on using proven methods with my trusted partner."
>
> In-depth telephone interview, offliner, female, 65+, Austria

> "I love going to the bank. I ride my bike, I have a purpose, a place to go. I enjoy talking to people, seeing them in person."
>
> In-depth telephone interview, offliner, female, 65+, Slovenia

It was clear that the implementation of any new payment method among this cohort of the population will depend heavily on the help they receive from family, friends or acquaintances. This, coupled with the lack of interest in using payment services provided by the bank, a lack of formal support, and ultimately the absence of need (because cash is accepted everywhere, and in any amount) has enabled them to remain unbanked.

8.4 Attitudes and potential resistance towards new digital payment methods

There were mixed feelings, or even reluctance, about the possibility of adopting a new digital payment method. Overall, there was a lack of interest and openness towards new digital methods as this target group indicated they were satisfied with their existing payment methods. This appeared in the interviews with the unbanked, underbanked and offliners in all countries.

Overall, the participants were not too keen to adopt a new method. Like the general population, the unbanked, underbanked and offliners could not think of any unmet need that a new digital payment method would cover. Participants believed that cash was the best method for them and the investment of extra time for physical transactions was not a major issue. Offliners in particular were people much more inclined to pay in cash, as this was accepted everywhere, unlike other payment methods.

For some participants, this reluctance was also due to cognitive factors, such as fear of change and possible difficulties in understanding the use of new digital payment methods, which was covered partly in the section on barriers to financial inclusion. They mentioned that they were "too old" or "too stubborn" to use new digital payment methods. This was found across a range of ages. This was mostly due to fear of escaping from the comfort zone which was mainly represented by cash. Others found this new method very difficult to understand; they did not see how this was new or how they could use it, since the term "digital" is very off-putting.

> "I am afraid I would not understand, it sounds complicated."
>
> In-depth telephone interview, offliner, female, 65+, the Netherlands

An additional significant issue was a feared loss of independence. At present, participants could handle their own affairs their own way and feel in control. With new digital methods, this was unlikely to be the case; and people will have to rely on others to install an app, teach them to use it, and help them resolve issues or get their money back. There were also concerns about the security and safety of such new digital payments, in line with the existing reluctance of participants to adopt digital payment methods. They feared that their personal information and their accounts could be abused.

> "I would never use contactless – I've seen stuff on the news about how people go around the subway with card readers and they can just hack into people's cards when they have contactless."
>
> In-depth telephone interview, underbanked/offliner, female, 41-64, France

At the same time, some participants also expressed a more neutral opinion – or rather one of indifference. These participants saw this new method as part of the digitalisation of the world and therefore inevitable. They had so far avoided the digital world and were uncertain about the concept of digital payment, but in the event of there being no choice, they would opt for this new payment method. Other unbanked participants were not against new payment methods but, at the same time, none of them particularly wanted to actually try as long as the current options of cash and debit card were still available. If it becomes unavoidable, they would use digital solutions somehow.

> "I can get on okay at the moment, but I can see how things are heading in the future, and that I'm going to have to really move into the modern times."
>
> In-depth telephone interview, offline, male, 41-64, Ireland

In short, anxieties about the safety of money and personal data and fear of technology were the key discouraging factors, but, if addressed in the right manner, some of the underbanked could perhaps be interested enough to at least seek additional information.

8.5 Possible leveraging factors leading to the improved financial inclusion of the unbanked population

While the unbanked, underbanked and offline population is in general hesitant towards new digital payment methods, as outlined above, there were some key features that could foster adoption of a new digital payment methods, such as a digital euro, among this target group.

Key features

The key features that a new payment method should present to make it attractive to this group were easy to use, secure and free. It should behave as much like cash as possible.

"Easy to use" was defined as having the same features as their current payment methods, thus building on familiarity. The new method should be as easy to use as possible and still provide the same control as cash. It should also be accessible around the clock and be accepted in any shop. And of course, the payment should be easy to operate. They reported that they want to be able to pay cash, withdraw money with a card, make automatic payments and have a monthly statement (via post or via the app). The following paragraphs cover features that would make a new payment method feel easy to use for participants.

Of the features presented to participants in the interviews, offline use without an internet connection was the most frequently mentioned feature that would encourage adoption. Participants consider that if they could use it like cash, without an internet connection or the need for a smart device, those aspects would make the new digital payment method more attractive. If it could be somehow incorporated into an old-school mobile phone or another object, this could make the payment device more interesting. The older interviewees say that the most appealing digital payment device would look like a card.

> "Some kind of alert, notification, to say you have spent this amount or this is what remains."
>
> In-depth telephone interview, underbanked/offliner, male, 41-64, France

The second, much discussed aspect that would encourage this target group to use a new digital payment method was guaranteed security, in a number of forms. In general, these participants demand high technical standards: the digital wallet must be stable and reliable – just like cash. They did not want to be in a situation where they are unable to pay for their goods.

> "It has to work all the time, everywhere and fast – loading time must be kept to a minimum too."
>
> In-depth telephone interview, underbanked, female, 41-64, Austria

In addition, the method should be protected against misuse in the event of loss or theft, with straightforward procedures for blocking and recovering lost money. Authentication procedures were considered key to this, for example using a fingerprint as an authentication method, so forgetting a PIN would no longer be an issue. Another idea mentioned was to have a limited amount (€500) charged to the digital payment method.

> "You can have the feeling that nothing will happen with your money."
>
> In-depth telephone interview, underbanked, female, 40-64, the Netherlands

Overall, the feeling of safety was most important as this segment of the population was unfamiliar with the new digital methods, and worried about making mistakes.

A third important aspect was the need for low or no fees. However, some participants would be prepared to pay a fee if a high level of security were guaranteed. The method should have no maintenance costs and the carrier on which the digital payment method operates should be accessible in price – ideally free of charge. Other concerns related to possible management fees, whether all the funds could be withdrawn in an emergency, if there would be interest charged, etc. Some participants said they would appreciate the option to borrow some money to help them cope with unexpected difficulties or hard times.

> "If it was free or even just one or two euros, because let's be honest, companies also need to make their living and it is a service you are getting, then I would be interested."
>
> In-depth telephone interview, underbanked/offliner, female, 41-64, France

Other features

In addition to the key-features spontaneously raised, other features were discussed with the following prompts on the possible technical aspects of a new digital payment method:

- You can make/receive payments to/from another person face-to-face as with cash today
- You can make/receive payments to/from another person electronically, as with bank transfers today, but would transfer/receive the money instantly
- You can pay in shops
- You can use it for online shopping
- You can easily withdraw euro in cash from it, for example at ATMs, or in bank branches
- You can make/receive payments without either you or the payee using internet access
- You can pay small values privately like with cash

The unbanked, underbanked and offliners were most attracted to the features that are also offered by cash, such as instant person-to-person payments and the possibility of paying lower amounts that would be private and impossible to monitor. Instantly sending or receiving money could be interesting for some, especially those who might need to send money to family members or receive their benefits or salary. In line with their existing payment behaviour, these participants would rather use this method in physical stores; they were not much interested in online shopping.

> "When I deposit a cheque, it takes me 15 days to be able to have it and use it, so receiving money instantly would change things a lot."
>
> In-depth telephone interview, underbanked/offliner, male, 41-64, France

Participants were asked how they would feel if the new digital payment method were linked to a bank account. On the whole, participants had mixed feelings, ranging from acceptance to reluctance. On the one hand, it would provide a sense of safety and security, confirming that this was a legitimate banking method. It was also logical, as the money in the digital wallet had to be uploaded from somewhere. In addition, for those who had a relationship with a bank, it had the benefit of familiarity and would inspire trust, not least in the set-up phase. It would be their go-to place during the onboarding phase.

Participants were also unsure: can it still be as private as cash if the payment instrument is linked to a bank or a bank account? The idea of a new digital wallet linked to their bank account made underbanked/offline respondents feel uneasy; they would prefer the two to be separate. The participants were also sceptical and reluctant to change their routine method of payment. Those who distrust the banking system and digital systems expressed particular concerns. They saw technology as a security risk, and exposure to it as a threat to their savings. Participants would like to know more details about exactly how it would work in relation to their existing bank accounts.

When asked about the provider of a new payment method, some were indifferent (*"they are all pretty much the same anyway")* and others would clearly prefer a local bank or a (local) public authority (participants saw these as the same or at least similar). They would neither like nor trust a foreign corporation to manage their money. They felt more secure with a local, domestic bank which would care more, would act in accordance with their own country's privacy laws, and work harder to ensure the privacy of their customers. People trusted the expertise of local banks. The ECB also felt more distant to this target group, as they particularly valued the closeness and sense of security of a personal relationship with their current bank or a local provider.

> "I would find it very reassuring because they are independent, not commercial, and they are internationally recognised organisations."
>
> In-depth telephone interview, underbanked/offliner, male, 41-64, France

The organisations they trust the least are foreign companies like Facebook.

> "I love Facebook, but I know they have all our data, so I'm not sure it would be secure, I would be scared."
>
> In-depth telephone interview, underbanked/offliner, female, 18-40, France

What could entice this group to adopt a new payment method would be a cashback or rewards system, and perhaps customisable features to help them track and manage their finances. A couple mention a partnership with a chain, for instance a supermarket, to accumulate points, rewards, cashback, etc. One had heard of Vivid, which offers cashback, and likes that idea.

Setting up and onboarding

In terms of onboarding, the participants felt that a significant level of initial support would be needed to set up a new digital payment system.

To avoid misuse, photo ID and official documents were required for the initial set-up. For this one-time-only activity, most participants were willing to visit their local bank branch. To set up the account, authentication or government ID were the favourite ways of verifying identity, or facial recognition as confirmation of identity. In terms of set-up, it would be most convenient for these categories of users to set up a new payment method in person, at a branch, where they can receive the necessary information directly from the staff. They would also appreciate technical support in the form of a call centre, where they could communicate with the operator.

There was a clear preference for face-to-face support to learn how to use the device step by step. If adoption cannot be avoided, the local bank branch and family ("tech-savvy relatives") were typically the trusted sources of information and support. Information must be simple. Participants also mentioned that a good service/call centre would be needed to support the set-up. Overall, older and less educated people needed direct personal support for onboarding and setting up, with a clear preference for face-to-face assistance, so they can feel secure. More educated people would also accept some kind of written manual or video instructions for setting up the new method. Those more familiar with online methods would feel quite comfortable if they received clear step-by-step instructions by email or by SMS. A helpline to call in case of necessity was also appreciated by all.

> "I need to know I can go to speak to an actual person who can guide me through it. Personal communication is always better than watching videos and getting instructions from the phone."
>
> In-depth telephone interview, underbanked/offliner, female 41-64, Greece

> "If there is information on the internet, that is already enough to start the procedure, I don't necessarily need a technician to do it with me. (…) But I still want to be able to see an advisor to follow-up and be guided."
>
> In-depth telephone interview, underbanked/offliner, male, 41-64, France

> "It would be good if I can just pick it up at the bank – then you have someone to answer your questions."
>
> In-depth telephone interview, underbanked/offliner, female, 65+, Germany

When it comes to daily use, participants reported that visual guidance would make it easier to learn how to use the new digital payment method, to be kept as a guideline. To understand the idea of a new digital method, participants said they would need some information, preferably in the form of a brochure (obtained from their bank) that could be read carefully and kept for reference. A comprehensive, clear website with visual material was suggested by a couple of interviewees. Also mentioned was information via post; a leaflet with simple step-by-step information (with a maximum of five steps).

8.6 Knowledge and understanding of the digital euro

The participants in general had not heard of the digital euro, and unbanked, underbanked and offline participants were no exception. They had little interest in this concept, which they saw as abstract, distant and overwhelming. Conceptually, it was understood as an evolution of the euro in the new digital times. They most frequently associate "digital euro" with a cryptocurrency (France, Greece, Malta, Lithuania, Slovakia), virtual currency (France) or digital payments in general (Malta, Slovakia).

> "I've heard of cryptocurrency but not digital euro."
>
> In-depth telephone interview, underbanked/offliner, male, 41-64, France

These participants raised many questions, particularly around the role of banks and the relationship between the current euro and the digital euro. They wondered if commercial banks would disappear and whether they themselves would have a direct relationship with the ECB. Would they need to exchange physical euro for digital euro, as with foreign currencies now? Given their main reasons for avoiding digital payment methods, it was particularly important to ensure their independence and freedom of choice, as they immediately assumed the disappearance of cash.

> "To give details of your accounts, your mortgage, your whole life, everything, over to a new digital currency just because the government or the EU are backing it, I think is very naive."
>
> In-depth telephone interview, offliner, male, 41-64, Ireland

Exceptions to this trend were reported in Belgium, Ireland, Germany, Greece, Lithuania and Malta, where some participants had heard of the digital euro. However, a participant in Malta said that she did not understand the concept and was not interested in knowing more. There were also many security concerns about adopting the new currency. In Germany, one participant reported seeing a documentary about the digital euro on TV. In Greece, participants related it to Bitcoin. In Belgium, the underbanked who had heard of the digital euro assumed it was a cryptocurrency or thought it was a new digital payment method organised by the ECB. In Lithuania, participants have heard of the digital euro but confused it, disapprovingly, with Bitcoin.

> "Yes, I saw a documentary once, but for me it is no good – once I was in Sweden and I was totally lost. I could not use my cash! I could not even buy a coffee without having PayPal on my phone. It seems like the digital euro is going in the direction of the Swedish model. All well and good that it protects against money laundering, but it is not good for the end user. With cash you know what you have in your pocket. And if a friend comes and says give me ten euros, then you don't have to go to the phone, open the app, and wait a few days for the transfer…"
>
> In-depth telephone interview, underbanked/offliner, male, 18-40, Germany

Overall, the participants were not particularly interested in knowing more about the digital euro. Any attempt to provide more information would need to be supported by personal contact, in an educational, close, empathetic tone, supported by references and backing from the banking system and public financial institutions. When prompted, participants said they would like to hear about the advantages of a digital euro as opposed to the euro currency, and how it would benefit them, in very general terms.

These participants only had a desire for the basic information needed to deal with day-to-day transactions. They would neither expect nor want technical, complex details. Simplicity and clarity would be essential. Participants reported that they would want to know whether it would be free and easy to use, and whether everyone would be able to open an account or wallet, even people with low credit scores or who had previously been overdrawn. They were also anxious to know whether the system would be imposed on them, and whether cash would still be accepted (the abolition of cash being something that they would never want to see). They would need information on whether or not this payment method would be linked to a bank or an official institution, and whether or not their transactions would be traceable. These participants would have no further interest in this new means of payment without the guaranteed anonymity of their transactions.

> "I suppose I would want to know as much info as possible through the media or through the bank."
>
> In-depth telephone interview, underbanked, male, 41-64, Ireland

9 SUMMARY OF PREFERRED FEATURES

The most desirable features of a future digital payment method for the majority of participants in the **general public and the tech-savvy** groups are:

- Universal acceptance: widely accepted in all kinds of physical shops and online across Europe, for all types of amounts.
- Contactless and instant person-to-person payments: no matter what system the recipient is using.
- A one-stop solution: integrating multiple payment methods; quick and easy to use; with contactless payments or customisable financial reporting functions.
- Safe and secure: biometric verification; protection from fraud and hacking; with authentication of payments.
- Cost-efficiency: no cost or low fees.
- Financial privacy (a digital wallet specific feature): while financial privacy is not top of mind, when probed, flexible privacy settings that can be adjusted to suit the payment occasion were preferred.
- Funding (a digital wallet specific feature): customisable manual funding with payment reminders when the balance of the digital euro wallet is getting low, and an option for automatic top-ups.

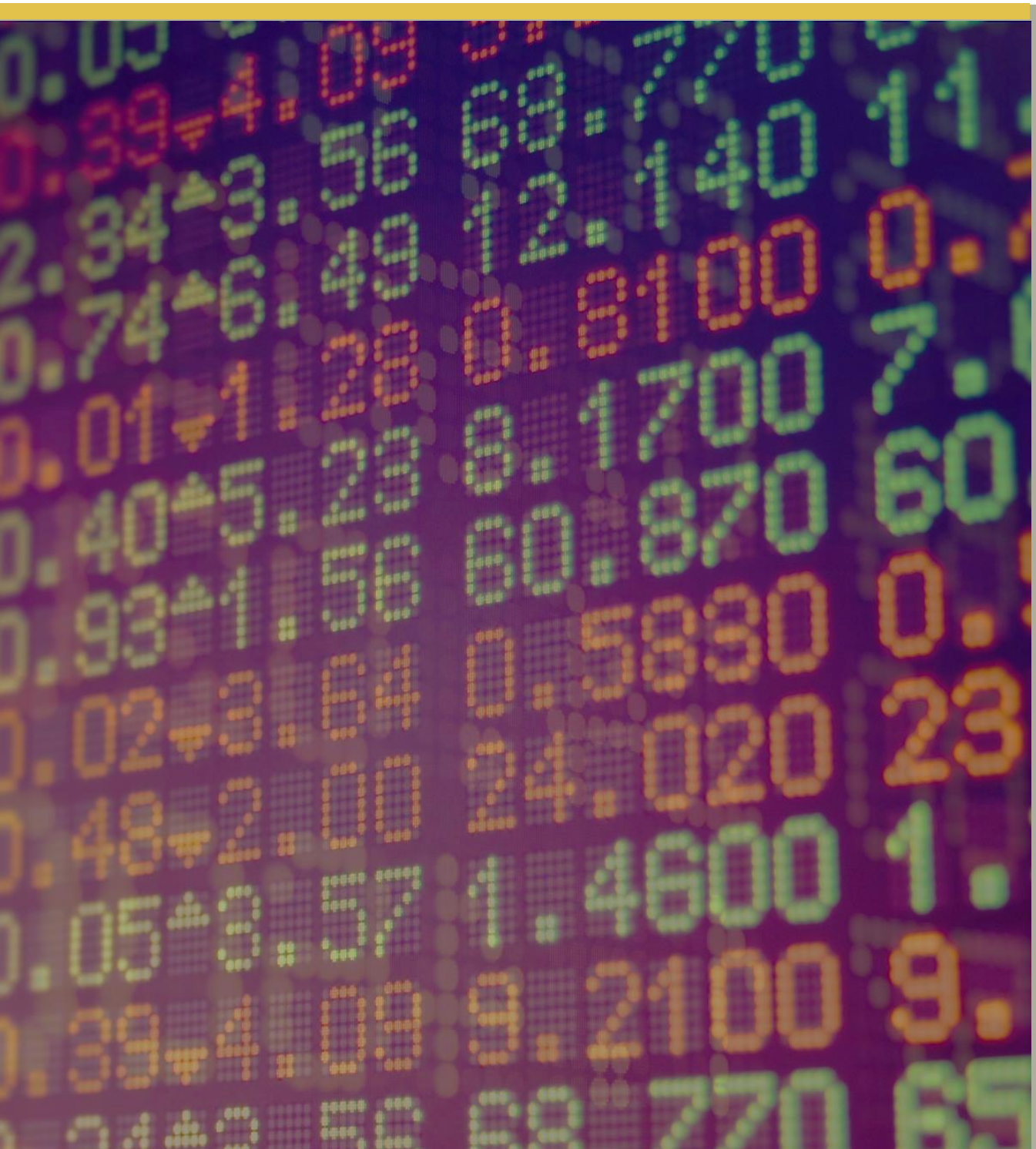
Merchants would seek the following features from a new digital payment method:

- High demand from customers is an overarching key driver for merchants to accept a new payment method.
- Low fees: once there is a high demand from customers and as long as fees are not higher than other current payment methods merchants are more likely to accept a new payment method.
- Speed of transactions: instant payments were very attractive for merchants. The element of instantaneity in payment was seen a strong point and a motivating factor for usage. It makes cashflow management easier. Merchants perceive the possibility of immediate payment, which could be one of the features of this new payment instrument, as a significant advantage.
- Technically reliable and backed up by good customer service: easy to receive such payments, for instance by scanning something with their phone (QR code, etc.) or using their existing technology; intuitive and easy to use.
- Good integration with their day-to-day business activities: integration of accounting tools, cashback, bonus points, marketing activities in connection with the introduction of a new payment service.
- Security and safety assurances for both merchants and their customers are particularly important features.

The **unbanked, underbanked and offline population** look for the following features in a new digital payment method:

- Easy to use without requiring technological digital skills: having the same elements as their current payment methods – to be able to pay cash, withdraw money with a card, make automatic payments and have a monthly statement; the possibility of offline usage without an internet connection.
- Safe and secure: personal information to be kept secure; protection against misuse in the event of loss and theft.
- Free: low or no fees, no maintenance costs and the possibility of borrowing a certain amount of money for more difficult months.
- Backed up by a robust customer support system: supported by personal contact with a preference for face-to-face support to set-up and start using the device or payment method. Known channels, such as their existing bank contacts, and backing from the banking system and public financial institutions will help win over some underbanked and offline participants.

ANNEX I: COUNTRY FICHES



Annex 1 provides information about the context at a country level, highlighting, if applicable, where there are any major divergences from the situation described in the full report above. After a short section on the general country context and payment habits, the perspectives of the already identified target groups (general population, tech-savvy, merchants and unbanked/underbanked/offline) on the acceptance of new digital payment methods, the digital wallet, its critical features and, by extension, the digital euro are discussed.

1 AUSTRIA

1.1 Country context: payment habits

Unlike many other countries in the euro area, in Austria, cash was the preferred means of payment for all age groups among the general public and the tech-savvy. It was the most widely accepted payment method. Plus, they simply liked using cash. In addition, many shops and restaurants, as well as vending machines, only accept cash. The general population and the tech-savvy also made greater use of bank transfers than their counterparts in most other euro area countries. The coronavirus (COVID-19) pandemic increased the use of contactless debit card payments across all age groups.

Awareness and use of mobile payment apps was low, although more common among women aged 18-40 than among men in the same age group. The tech-savvy made more use of digital methods like e-banking, PayPal and Apple Pay, but even this group were regular cash users in a variety of payment situations. Ownership and use of credit cards was less common in Austria than in other countries. The general public and the tech-savvy were satisfied with the options they use and saw no need for a new payment method. Recent adoption of new payment methods was rare, and mostly out of necessity – particularly due to increased online shopping as a result of the COVID-19 pandemic.

1.2 Perspective of the general public and the tech-savvy

There was little motivation to adopt a new digital payment method among the general public, although the tech-savvy were more open to innovative payment methods. A key driver for adopting a digital wallet would be that it is popular and widely used by others, and widely accepted. However, there was a general scepticism that such a device would reach this level of use in Austria.

For both the general public and the tech-savvy, safety and security were key priorities for a digital wallet. It must be safer than the current options available. They had a high level of concern for the safety of their savings, so would not tolerate any risk in a new payment method. Buyer protection would be a key selling feature, as this was regularly mentioned as one of the positive aspects of PayPal and credit cards. PayPal was also liked as it improves privacy by hiding their card details from retailers. Allowing anonymous payments, at least in small amounts, was an important feature for those in Austria, as was 24/7 availability both online and offline.

One of the appeals of cash in Austria was the control and oversight it provides when spending. Digital payments were viewed with suspicion and concern by many, as they were thought to encourage overspending. As a result, a key driver for encouraging uptake would be features that helped manage spending, including an option to block shops or products, limit money uploads, or automatically check unusual purchases. The ability to have an overview of expenditure was also a desirable feature.

There was a preference for a digital wallet on a chip that can be integrated into a range of devices. The exception was the youngest age group who wanted to be able to use their wallet on a smart device. Older participants would prefer a wallet that works like a card. Some of the general public and the tech-savvy were opposed to it being on a smartphone or requiring the use of a mobile app, as they did not consider them safe enough.

Those under 65 were more open in their thinking about a digital wallet, but security, anonymity and spending limits were still important to them. Older women were concerned about digitisation in general, while the older generation more generally, and older men in particular, worried about the security aspects of a digital wallet.

Unlike in other countries in the euro area, people in Austria viewed instant person-to-person payments as a nice to have feature, rather than as essential.

Awareness of the digital euro was low, although it was higher among men than women and was also higher among older age groups. However, none had a clear idea of what it would entail other than that it was something the ECB was considering. Participants most often related it to crime control, government surveillance and to cryptocurrencies, like Bitcoin. Across all age groups there was uncertainty about how a digital euro would be different from the euro they spend and transfer digitally from their bank, and they saw no benefit compared to their current systems.

1.3 Perspective of merchants

Despite accepting that there is a trend towards digital payment methods, merchants in Austria were still strongly in favour of cash. Face-to-face merchants, such as shop and restaurant owners, were more likely to see the advantage of digital methods over cash in terms of safety (e.g., not having to take cash to the bank, less cash on site) than service providers and other merchants. Despite this preference for cash, most merchants accepted a wide range of payment options including credit and debit cards and online methods. Some also accepted vouchers (Sodexo) or offered payment via QR code, mobile apps or cryptocurrency. Merchants wanted to offer the payments their customers ask for, but would not offer an option if the costs to them significantly outweighed the benefit of attracting/keeping customers. Their preferred option was not always the customer's preferred option.

Apart from customer demand, fees would be a powerful driver to offering a new payment method. If fees are low or seen as reasonable, merchants would be willing to adopt the new digital payment method, but if they were too high, merchants would continue to encourage the use of cash, bank transfers or cheaper methods. Convenience, speed, security and reliability would be crucial in driving adoption, and merchants would not want set-up costs, such as having to buy new equipment. Good customer service would also be a selling point, as some reported negative experiences with current providers.

Useful reporting that can be integrated with accounting systems was desirable and something missing from current options. Instant payments were attractive, but, as with risk-freeness, these were not seen as unique or convincing. They already felt their money in the bank was risk free. They assumed the instant nature of payments would involve additional fees to them, which would be a barrier.

A few merchants had heard about the digital euro, but, in general, awareness was low. Knowledge of a digital euro was minimal, with confusion about how it would be different from the euro held digitally in their bank account. There was no perceived need and merchants were at best neutral about the idea.

Merchants in Austria did not expect customer enthusiasm and were not interested in being early adopters. There was scepticism about the ECB's ability to manage this successfully, as the ECB was not seen as modern or innovative. They did not see the digital euro as innovative and could not see how it would provide them with any advantages.

1.4 Perspective of the unbanked

The unbanked/underbanked/offliners predominantly used cash and bank transfers, with the occasional use of debit cards. They were satisfied with their current options and saw no pressing need to change payment methods. Offliners were concerned about a new method being complicated to learn and time consuming, as well as their own technical ability to make financial transactions online and the general safety of these transactions. The underbanked were concerned about sharing data online.

The unbanked/underbanked/offliners were not aware of the digital euro at all. When the idea was raised with them, the general response was scepticism. They saw no benefit over their current options, they worried about making mistakes and they did not want to make changes to their current ways of paying. The main driver for them would be if their preferred options of cash and debit cards were no longer available. Although no compelling features emerged in discussions, easy handling and fast payments had some appeal, but both still raised safety concerns. They were not interested in using a digital wallet on a phone, preferring a more familiar card format. In addition to the security issues raised, a digital wallet must be reliable and always available, just like cash. An Austrian bank would be strongly preferred as the provider of a digital wallet, although these groups would not like their wallet to be linked to their bank account.

2 BELGIUM

2.1 Country context: payment habits

Belgium is a technologically mature market when it comes to payments, with digital payment methods more widely used than cash. The general public and the tech-savvy indicated that they used them to pay in stores using debit cards (Bancontact) either with a pin or contactless, and debit cards were popular across all age groups. Cash was used, particularly by those aged 65+, but normally as a backup if other methods were not available. Banking apps such as Payconiq and Apple Pay were widely used, particularly by under 65s. For shopping online, those in Belgium preferred the Bancontact app, Payconiq and credit cards, although the latter were more popular in Wallonia than in Flanders. PayPal was not widely used in Flanders for online shopping, but was more common in Wallonia. Bills were paid by manual or automatic bank transfer via e-banking or the bank's mobile app.

Some in the general public had recently adopted mobile payment or apps like Payconiq, with convenience and word of mouth cited as the main reasons for adopting a new payment method. Payconiq was particularly popular as the payment process is quick, transfer is immediate and there is no need for cash.

As a technically mature market for payments, in Belgium there was little difference in payment habits between the general public and the tech-savvy in Flanders, although the tech-savvy used even less cash and made fewer automatic payments or manual bank transfers than the general public.

2.2 Perspective of the general public and the tech-savvy

The general public and the tech-savvy in Belgium were satisfied with their existing payment methods and would not proactively look for new ones. There would need to be a relevant and compelling feature in a new method for it to be appealing, with features relating to convenience the most compelling.

What stood out in a new payment method as a key driver for adoption was not local acceptance (which they already have with existing methods) but European acceptance. The ideal payment method should be accepted at least throughout Europe (but ideally worldwide) in all kinds of stores. This would also allow it to replace expensive credit cards, which was another positive selling point for those in Belgium. Another unique and appealing feature would be if this new digital payment method could be an all-in-one device that incorporates all payment methods.

A new digital payment method would have to be fast and easy to use with contactless payment and biometric authentication. There should be no fees. Payments should be instant, and person-to-person payments were also important. Other desirable features were alerts to special offers in stores or making it possible to do checkout-free shopping by taking payments automatically. It should be easy to monitor the balance, to track spending and to allow for the categorisation of expenses – although some saw this as a security concern. Some would like to be able to make automatic payments from their wallet.

The central bank was generally considered the most reliable, trustworthy, and secure provider of a new digital payment method, although there was more support for a European entity in Wallonia. Privacy was most important to those aged 65+, but in general there was a willingness to trade a little privacy in return for convenience.

Emerging from discussions on the digital wallet features were two different views. Some viewed the digital wallet as a cash replacement. This view was dominant among the tech-savvy in Flanders. As a result, they viewed such a payment method as irrelevant to them as they had already stopped using cash. Those in Wallonia were more receptive, and particularly liked the idea of QR code payments. For those who viewed it as a cash replacement, the €3,000 limit was more than enough as they could not imagine needing that much "digital cash". While they would be prepared to keep €20-50 in a physical wallet, they considered having more than this amount in a digital wallet seemed risky.

The other view of the digital wallet was as a new payment method, and in this case €3,000 was not seen as sufficient for monthly expenditures, particularly if all expenses were settled using the wallet. This would make the digital wallet less attractive than existing methods with higher limits. There was resistance to the idea of paying to increase the limit, particularly when up to €100,000 was guaranteed in their bank account.

The concepts of funding and risk-freeness would not drive uptake in Belgium. Everyone thought the money they have in their bank is already risk-free thanks to government guarantees, while in Wallonia in particular funding was a barrier, as it was seen as an unnecessary extra step compared to their debit card.

Most in the general public had no awareness or knowledge of the digital euro, which was spontaneously described as a "cashless euro" or a kind of ECB Bitcoin. The concept caused confusion as it was not clear how it would be different from the euros that are currently held in the bank and spent digitally. As a result, it was not clear what the benefits of a digital euro might be.

The ECB was seen as a powerful, trustworthy regulator, like the central bank, so its involvement with the digital euro was viewed positively by many. However, some also saw the ECB as less innovative and possibly more prone to cyber hacking than commercial banks. Those in older age groups viewed the central bank in Belgium as an extension of the government, so they

thought the digital euro was a way for the government to increase control over citizens and their financial dealings.

2.3 Perspective of merchants

Merchants in Belgium tried to offer as many different payment options as they can for customers, although they want to use their existing point-of-sale (POS) terminals rather than installing additional ones. They accepted cash, debit cards, mobile apps like Payconiq and prepaid cheques. They accepted credit cards but did not like the fees involved, with some setting a minimum amount for transactions using these cards. Mobile payments were less commonly mentioned in Wallonia.

The main driver to adopt a payment method was customer demand. Merchants also wanted a system that is quick and easy for customers to use and that integrates smoothly into their back-office systems. Cost was an important point but did not emerge as a key factor in their choice of payment methods. Merchants accepted the fees' rationale, namely paying for a service that is provided. Their main complaint was the lack of timely support when experiencing technical issues, such as a terminal breakdown, which might make them lose sales. Other than this, merchants were generally satisfied with current payment methods and had few improvements to suggest.

Some merchants had heard of the digital euro, but the level of knowledge about it was not high.

As is the case in many countries, customer demand would be the main driver to offer payment by digital euro. Instant payments would also be important as this feature was very appealing to merchants. Other important features were that the digital euro is connected to their current bank account, available all the time, and connected to their existing payment terminal. For merchants in Wallonia, the most important thing was to be able to make transactions without internet access, with a guarantee that funds are available. All merchants wanted a payment system that provides good transaction reporting to assist in business management, and one that can be used for all their business transactions and linked to all their accounts.

Risk-freeness was not seen as relevant since funds in the bank are already guaranteed.

Merchants in Flanders were more open to the idea of adopting the digital euro than those in Wallonia (who only sell in physical stores and had more of a focus on cash and its benefits, including being less traceable).

2.4 Perspective of the unbanked

The unbanked/underbanked/offliners in Belgium used cash for everyday shopping and only used bank transfers when they could not pay cash. They indicated a preference for cash as it gives them control over their money and they like the contact they have with their bank. In Wallonia, prepaid cards were sometimes used for online shopping. The unbanked/underbanked/offliners did not have or want a smartphone and they did not use e-banking. They were not anti-internet, but they saw no need to change a routine of payment that works and is practical. They did not want to learn a new method and worried that they would make mistakes while using it.

Few had heard of the digital euro, and none were interested in it.

While not against new payment methods per se, none of this group was interested in trying a new digital wallet. Central to this was the view that it would imply a loss of their independence. They considered they were currently able to manage their financial needs with the existing methods and would not be able to do so with a digital method. This would force them to rely on others for something they could now do by themselves.

If they had to adopt a digital wallet, the unbanked/underbanked/offliners in Belgium said it would have to be free, safe and easy to use. They wanted it to be provided by their own bank and expected a lot of support in learning to use it and managing any mistakes they make. Being able to pay without the internet was appealing as they saw it as more secure. In Wallonia, in particular, they would only accept something that is not linked to a bank account and that guarantees the anonymity of transactions.

3 CYPRUS

3.1 Country context: payment habits

Credit and debit cards payments and cash were the main payment methods used for everyday shopping in Cyprus. Cash was generally used for smaller purchases and was more often used by older age groups. For larger payments and regular bills, payments via internet banking and standing orders were widely used. There were demographic differences in payment methods, with younger professionals and students more likely to use digital payment methods like mobile apps and smartphone-based payments, while older individuals and blue-collar workers tended to use more traditional payment methods (credit/debit cards, cash, online banking).

Mobile payment apps were used across all age groups, although younger ages and the tech-savvy used them in a wider range of situations (payments and person-to-person transfers), while older groups tended to mostly use them to transfer funds to their children. The tech-savvy use Apple and Android mobile wallet applications, the wallet applications of local banks, Revolut, physical and digital cards, PayPal and mobile and internet banking. Revolut was particularly popular as it has no transaction fees, immediate payment and could be used where cards are accepted. It was also perceived as untraceable as it sat outside the national banking system.

The main drivers for adopting new payment methods were the convenience of use, the suggestions of peers, the push to adopt payment methods used by peers to facilitate transactions among them, and the suggestions of service providers for settling accounts. However, few had recently adopted a new payment method.

Worth mentioning is that some in Cyprus had used mobile wallet applications from local banks but had then abandoned them as they were not widely accepted, highlighting the importance of acceptance in this market.

3.2 Perspective of the general public and the tech-savvy

The most critical feature of a new digital payment method was its universal acceptance irrespective of the amount being spent. This is something that was missing from current digital payment options and would be a powerful driver for adopting a new payment method, particularly for younger age groups and the tech-savvy. It was important for the new method to be convenient and easy to use, with these aspects being more important to women. Another key feature, especially for men and the younger age groups, was that the method could be used without internet access. It should be small and ideally on a device they already own, such as a smartphone, item of jewellery or keychain, and a few would be happy for this to be implanted so no physical device would be required.

When discussing the payment features of the digital wallet, the most important feature was that it was easy to see the balance and what has been spent. This was important to all demographic groups, as was instant payment. There was a strong preference for contactless payment. Younger age groups were also interested in being able to label and organise their expenses in the wallet. The tech-savvy, in particular, favoured biometric authentication for smaller amounts but would like a one-time password approach for larger purchases and for online purchases. The tech-savvy would like a “no embarrassment” feature that ensures the balance of the wallet never falls below a certain level, and they liked the idea of the wallet being linked to their bank account.

Person-to-person payments are already widely used, so the new digital payment method would have to allow these, but this alone was not a driver for adoption. What would encourage adoption was if these payments could be made irrespective of the system the recipient was using, as this was something that was not currently possible.

There was universal appeal for a new digital payment method that could integrate all payment options and even store or loyalty cards on one device. A cashback or loyalty scheme was also appealing. The safety and security of the new digital wallet were important to all groups, although privacy settings and risk-freeness on their own were not strong drivers for adoption.

Those under 55 were the most open to a new payment method, while those aged 55+ and those lower on the socio-economic scale were resistant, as they are satisfied with current methods and did not see how this digital wallet would be better at serving their needs.

Most of the general public and the tech-savvy had not heard of the digital euro and did not know what it was. The exceptions were some professionals (particularly in the financial sector) and some individuals over 35 years of age who had slightly more knowledge. However, it was not clear to anyone how a digital euro would be different from the current system, namely having money in a bank and using electronic payment methods.

The tech-savvy and younger members of the general public who were familiar with electronic payment methods found it easier to understand what the digital euro was, and they viewed it as a natural development in payment systems. On a positive note, the involvement of the ECB would give the digital euro credibility, and some thought it would make life easier for them. The ability to track transactions and fight tax evasion, criminal activities and the black economy were also viewed by some as positives.

However, others viewed the digital euro in a negative light, saying it would give excessive oversight to governments and central banks to monitor all transactions made by private entities. There were also "Big Brother" fears associated with the use of personal data on transactions and that the control of digital money might lead to political control. Others expressed concern that the digital euro would erode the independence of the financial policy of individual Member States and would increase the disparities between the European north and south.

3.3 Perspective of merchants

Merchants reported an ever-increasing demand from customers to be able to pay using a wide variety of methods, and particularly digital methods.

All merchants accepted cash and cards and some who conducted large value transactions also accepted cheques. Digital wallet applications, particularly Revolut, were increasingly being offered. Revolut was also popular with owner managers as it allowed them to use their personal account, without the need to invoice sales in the books to be taxed. Those who sell online also accepted PayPal, which was more popular than cards, which have higher fees.

After customer demand, the key features that would encourage merchants to adopt a new digital payment method were fast and ideally instant payments. This was more important than fees; in fact, some merchants would pay higher fees in exchange for instant payments. A financial incentive such as a cashback would be a powerful incentive to adopt, as this idea was extremely popular. In addition, fees and transaction costs should ideally be lower than their current options. Revolut and the wallet applications of various banks were liked because payment is instant and there are no fees.

Another desirable feature of a new payment system was that it could be integrated into existing infrastructure, and this was particularly the case for merchants with more complicated software solutions that integrate POS and stocks (e.g. mini markets).

Merchants had little awareness or knowledge of the digital euro.

3.4 Perspective of the unbanked

The unbanked/underbanked/offliners in Cyprus did not see any need for technological innovations in their payment methods. They viewed technology as hard to understand and manage, and they thought using digital methods could lead to overspending. This group often lived in rural areas and had limited internet use. Cash was their primary means of payment, although the COVID-19 pandemic had pushed them towards digitalisation, given the limits imposed on movement, including visits to bank branches. Banks in Cyprus had issued debit and credit cards during the pandemic, but this group only used them to withdraw cash from ATMs.

This group had no awareness or knowledge of the digital euro. They were concerned that this system would be imposed on them, and cash would be abolished – something they did not want.

It was difficult to get the unbanked/underbanked/offliners to think about a digital payment method, given their anti-digital views and lack of desire for a new method. However, if they had to use one it would have to be secure and very easy to use. They would not want something linked to a bank account as they saw this as a security risk. They would want a trusted person, such as a family member, to set up a digital wallet for them, as they would not want the bank to do this.

4 ESTONIA

4.1 Country context: payment habits

Estonia is a technically mature market when it comes to payment methods, with contactless cards and digital options dominating the payment landscape. Methods that are convenient, fast and easy to use were popular. The general public used contactless debit cards for everyday shopping. Apple Pay was used by the 18-40 age group as well as by some aged 41-64. Some had recently adopted digital methods like Apple Pay and local app mTasku for convenience, or because there was no other way to pay in a certain situation. Cash was only used if cards were not available, and, as a result, the use of cash was much less widespread than in many other euro area countries. Debit and credit cards were used for online shopping. PayPal was also used but was less popular than in some other countries.

The tech-savvy in Estonia predominantly paid with digital methods, particularly Apple Pay or Google Pay, using their smartphone or smartwatch. They liked the ease and convenience of swiping their device for payment. Some of the tech-savvy also put their physical cards on smartphones and used apps like mTasku for paying for parking and public transport with their phones. Options that allowed them to use one service for several purposes were popular: for example, a debit card that was also a customer card, student ID or transport card. The tech-savvy in Estonia also used the mobile apps of banks for paying online – something that was less common in the euro area as a whole.

4.2 Perspective of the general public and the tech-savvy

Since most of the proposed digital wallet features were already regularly used in existing services, it was hard for the general public and the tech-savvy to see any added value. This would represent the main challenge for a new digital payment method in Estonia. Satisfaction with current payment options was indeed high. Some respondents claimed they would only use a new payment method to replace something that they already had because they did not want an additional method.

Although risk-freeness and acceptance were considered the most important features of a digital euro, participants in Estonia felt they already had these features in their current payment methods. They trusted their banking system and rarely experienced their current payment options not being accepted. There was also scepticism about the ability of all countries and merchants to agree on a single payment option. Person-to-person payments were widely used and a desirable feature of any new system. In Estonia, several banks had apps that allow for easy person-to-person payments, but not all banks offered this service, so a digital euro that allowed this would be appealing.

A potential key driver for adopting a new digital payment method would be if it enabled people to streamline their payment methods. A digital wallet that connected information from all of a person's bank accounts, creating a complete overview of their assets in one place was highly desirable. Added to this, the ability to see what is left in the wallet and what has been spent, as well as the labelling and grouping of expenses, was seen as necessary were the wallet to become a one-stop financial tool. Reminders in the case of overspending in a specific category were also a popular potential feature. Also appealing was the ability to access all loyalty cards from the wallet so they would not need to carry any additional cards.

A new digital payment method should make payments easier and more convenient. Many mentioned the possibility of a chip in one's body or in an everyday item they always carry (e.g. jewellery, glasses). Another suggestion was connecting it directly to biometrics such as a fingerprint, so a device or card would not be needed at all.

Many suggested the Estonian national ID card as a potential safe and universal digital wallet.

The ability to use the digital wallet to make payments in other euro area countries may be a driver for those aged 41-64 but is of less interest to those aged 18-40.

Age differences also emerged in relation to payment and authentication. Those aged 18-40 did not want PIN/TAN authentication, but this option was popular with those aged 65+, and men. The tech-savvy favoured biometric authentication, although the idea of authentication not being required for small amounts was appealing. The idea of paying by QR code was more appealing to men than women. A contactless device was most popular with those aged 41-64.

There was low awareness and knowledge of the digital euro among the general public and the tech-savvy. This was spontaneously associated with virtual or electronic money and very often with different cryptocurrencies. In a theme echoed across the euro area, there was confusion about how a digital euro would be different from the current situation where money is held in the bank and spent electronically.

Given the high penetration of digital payment methods in Estonia, it is perhaps unsurprising to find that most were neutral or positive about the idea of a digital euro. However, there were some concerns about not everyone being able to use it (due to devices or technical ability), and how it would work if there were no internet.

4.3 Perspective of merchants

Merchants tried to offer all the payment options customers wanted. Debit and credit cards and mobile payments were the most common in physical stores. The downsides of card payments are the service fees, and their dependence on the internet to work. All merchants accepted cash, although this is only a small part of sales – in Estonia, it is common for people to carry no cash at all. Some liked instant payments which are very convenient as they allow

them to receive their money immediately. Invoicing and bank transfers before supplying goods were popular for larger purchases such as furniture, while for online sellers, payment using a bank link for direct transfer is common. Some merchants accepted PayPal.

Merchants would be motivated to adopt new payment methods if it saved them money, or if it offered a better service to their customers: for example, offering card payments even though there is a fee to provide the terminal. Changes in consumer behaviour also drove uptake, with increased acceptance of mobile payments being the most recent example. Merchants agreed that there is a trend towards digitalisation of payment methods among young people, but they felt Estonians in general are open to digital methods as even older people mainly use card payments.

Few merchants had heard of the digital euro, and none really knew what it was. They were sceptical about adopting it in Estonia as they believed people were satisfied with the options they had and would not be in a hurry to adopt a new method.

Merchants cited safety, the speed of receiving money (ideally instant) and the quality and reliability of the service provider are essential factors to consider when adopting a new payment method. The service fee was also important. However, some agreed if there were strong customer demand, they would offer a new payment option even if it were more expensive for them (as they have done in the case of card payments).

Although generally satisfied with their current payment methods, merchants would like to have better integration between their accounting software and the bank. It was sometimes difficult to separate the amount paid by the buyer from the transaction fees in the current reports they received from their bank.

4.4 Perspective of the unbanked

In Estonia, all salaries, social benefits and so on, are paid into a bank account rather than by cash or cheque. As a result, there was almost no-one without a bank account, and the participants in this group were offliners or underbanked (they did not use digital payment methods). These people were mostly older, with an average age of 70. Cash was their main payment method as it feels safe and gives them a sense of control over their spending. However, unlike in many other euro area countries, all the underbanked/offliners also had a bank account, and they used direct debits to pay bills. The COVID-19 pandemic increased the use of card payments among these people, but some struggled with using pins as they had trouble seeing their phone and the terminals.

There was no knowledge or awareness of the digital euro among the underbanked/offliners.

None of the underbanked/offliners felt the need for a new payment method and would adopt one only when almost everyone was using it and there was no way of avoiding it. Offliners thought any new method should be connected to an existing one so that there would be no need for a new card or gadget.

5 FINLAND

5.1 Country context: payment habits

Finland is a technologically mature market, and this was reflected in the payment habits of the general public and the tech-savvy with contactless debit cards and MobilePay commonly used for day-to-day payments both online and offline. MobilePay had been embraced as a cash replacement by many, especially in light of the COVID-19 pandemic. Cash, credit cards, and Apple Pay were used less often, with cash only used in places where other payment methods were not accepted such as flea markets. Klarna and PayPal were popular for online purchases.

In contrast to many other countries in the euro area, there were no major differences between the payment habits of the general public and the tech-savvy. There was also little difference between demographic groups, although the use of mobile payment methods was less common among older age groups. The widespread and longstanding use of mobile and digital methods meant that in Finland there were few instances where people had recently adopted new payment methods. In addition, high satisfaction with current payment options meant no one is actively searching for new payment methods.

5.2 Perspective of the general public and the tech-savvy

With the high penetration of digital and mobile payment methods, and high satisfaction with current payment means, the idea of a new digital wallet held little attraction. Although there was a general willingness to try new methods if they are convenient and secure, their current high satisfaction with feature-rich methods means no particular features emerged as strong drivers for adopting a new digital payment method. In Finland, therefore, a combination of factors and features would most likely be required to drive adoption. In addition, the tech-savvy showed more scepticism about the digital wallet than the general public.

One of the most appealing possibilities was that the new digital wallet would be accepted all over Europe and even globally, as this would be a novel and useful feature for many. However, there was a high level of scepticism that even pan-European acceptance could be achieved. It was taken for granted that a new method would have to be universally accepted online and in physical stores before people in Finland would adopt it. In addition, the digital wallet would need to work on all platforms and interfaces and work with all banks (both domestic and international).

Person-to-person payments were also considered essential as they are already widely used in MobilePay. Instant payment, however, was a novel and appealing feature that existing mobile options did not offer. Being able to make instant payments and having immediate confirmation of their account balance was highly desirable. Being able to see details of transactions would also be an important feature to encourage adoption. Other features such as labelling expenses, reminders, and programmability, were seen as nice to have rather than drivers for adopting a digital wallet.

Many said they would like to be able to have all payment methods and loyalty cards stored on the wallet, as well as the ability to use it to pay recurring bills. This would be a convenient feature, that could simplify their life.

Contactless payment and biometric authentication were preferred for speed and ease of use. The tech-savvy expected strong identification with online bank IDs (“pankkitunnukset”) when setting up the wallet for the first time, and for ongoing use they wanted an easy and safe sign-in method, for example simply using an ID card.

The idea of having to charge money on to the digital wallet would be a barrier as it was seen by many as an extra step that is not required for other methods like a debit card. However, there was a preference for manual rather than automatic top ups to control the flow of money from a bank account to the wallet.

There was broad appeal for carrying the wallet chip in jewellery or another everyday item to avoid the need for an additional device. Among the general public and the tech-savvy there was a wider interest than observed in many other euro area countries in a chip being implanted in the body.

One novel idea raised by some participants is for automatic in-store payments with the wallet: being able to walk in, put items in a cart which automatically scans them, and then simply walk out with payment being registered automatically on their device.

Awareness and knowledge of the digital euro was low among the general public and the tech-savvy. Although a few had heard of it, none was sure what the digital euro was. It was most often associated with some type of digital currency to replace cash, or with blockchain technology and cryptocurrencies such as Bitcoin.

It was not clear to these groups how the digital euro would be any different from the digital payments they are already using. They thought of the euros in their bank as digital euros, and they did not see why another kind of digital euro might be needed.

After further explanation of the digital euro, many in Finland liked the fact that it represents innovation and progress in digitalisation. It was also seen as a positive evolution in payment security, with the involvement of the ECB and the Finnish central bank adding an additional element of trust and safety. However, others were concerned about the speed of change, how the digital euro would be implemented, and what impact it might have on the stock market and interest rates.

5.3 Perspective of merchants

Merchants were client-driven when it comes to payment methods. They did not actively seek new methods, but if customers wanted to use an option, they would be motivated to add it. Merchants in Finland were generally satisfied with the current options they have available. Most thought the fees they need to pay are reasonable and they understood their scope. Therefore, fees did not represent a major issue, although some said percentage-based fees make it harder to calculate profit. Some merchants reported poor support from payment service providers and distrusted some non-bank options since they did not know where their money was or when it could be seen on their bank accounts. For instance, when using PayPal, the business may have to wait for days to get the money into their bank account. Merchants in Finland completely embraced digitalisation, and felt it was logical that payment methods are increasingly digital.

There was low awareness and knowledge of the digital euro among merchants. Most thought it meant that the ECB would abandon cash, but as most payments are already digital this was not considered a major issue. However, like their customers, merchants did not understand how this digital euro would be different from the euro in their bank. They also wondered about the impact on commercial banks if people were to move to a digital euro from the central bank.

If it were fast, trustworthy, and easy to use and were to offer them additional benefits to existing services, then merchants would not be opposed to offering the digital euro as a means of payment, but its adoption would primarily be driven by customer demand. The other key driver for merchants to adopt the digital euro would be instant payments. They did not want to wait for days to get the money on their bank account, as is often the case with PayPal. However, since most payment methods already offered fast payments, this alone would not motivate them to adopt the digital euro. Customer demand would again be key.

Additional features that appealed to merchants in Finland were things that would help their day-to-day routines, such as linking payments directly with their customer register, bookkeeping systems, or stock accounts. Some thought the digital euro could make it easier to sell to international customers.

5.4 Perspective of the unbanked

The unbanked/underbanked/off-liners fell into this category either as a result of technical reasons (e.g. poor internet), because they were not interested to learn about digital matters or because they had concerns about the security of mobile payments. This group preferred to use debit cards and cash for their payments, although some did also use internet banking and credit cards in specific circumstances.

There was no knowledge or awareness of the digital euro and little understanding of what such a system would look like.

The unbanked/underbanked/off-liners were satisfied with their current payment methods and had no desire to adopt a new one. However, if they had to use one, being able to use it like cash and without needing an internet connection or a smart device would make a digital wallet more attractive. Removing the requirement for internet access to use it increased interest in the digital wallet. Ideally, it would be incorporated into an older style mobile or another object, with older interviewees preferring a card.

This group preferred using a debit-card or cash because these make tracking one's spending easier. Therefore, the ability to provide a clear balance in the wallet could address the concern that spending in this way would mean losing some financial control.

6 FRANCE

6.1 Country context: payment habits

Debit cards were the most common payment method for the general public in France, and cash was also popular, particularly with those aged 65+. PayPal was the preferred digital payment method, mostly for online shopping. Mobile payment options were disliked because of fraud and security worries, and because there was no perceived benefit. They were not widely used by the general public, although their use is more common among those aged 18-40 than older age groups. Those who used mobile payment mostly did so for smaller amounts, and they reported issues with acceptance. For the tech-savvy, on the other hand, digital payment methods were the most popular way of paying including mobile payment apps, virtual cards and electronic payment schemes. They appealed because they were fast, convenient, and viewed as secure.

Few had recently adopted a new payment method – with mobile payment and electronic schemes the most frequently mentioned. The most common drivers for adopting a new payment method were the lack of other payment options, and recommendations from friends.

For the tech-savvy, popular digital payment methods included mobile pay and apps or e-cards / virtual cards. They liked the speed, convenience and security of mobile payment options, but some had experienced issues with acceptance. Apps including Lydia and Paylib were popular for person-to-person transfers as they are instant and there is no need to know the recipient's bank details.

6.2 Perspective of the general public and the tech-savvy

Across all demographic groups, acceptance would be a key driver for adoption as it has the potential to really differentiate a new digital payment method from other payment methods. It was the most important feature for those aged 18-40, and in the top three for older age groups.

Person-to-person payments would also be a driver for the general public, and particularly those under 65. The tech-savvy already had this facility with their existing payment options, so this feature on its own would not drive adoption. However, if payments could be made to others without having to use the same application it would be a powerful driver for the tech-savvy. The tech-savvy also wanted a method that works without the internet, and they wanted to be able to customise various aspects of their digital payment method to suit their personal preferences.

Speed, convenience, and security would also be key for acceptance of a new digital payment method. Biometric authentication such as fingerprint, eye scans or face ID were desirable for security and convenience, although this will be more of a driver for those under 65. Those aged 65+ were more concerned about security and safety than younger age groups and were more likely to prefer a solution with a high privacy mode.

Contactless payments and instant payments were both requirements for all age groups. Some of those aged 18-64 said they would need a financial incentive or a reward like cashback or vouchers to motivate them to adopt. Those aged 18-40 also wanted to be able to easily see how much they have in their digital wallet, and to organise and label their expenses. However, in general, value-added services like buyer protection, insurance and bonuses were seen as nice to have but not powerful drivers for adoption.

The tech-savvy and the general public wanted a digital wallet that is provided by a central or private bank as this feels secure and familiar, as well as being easy to contact. They wanted the option to either set up their wallet at home, or to do it face-to-face in the bank. The consensus was that €3,000 is a very high limit for the digital wallet.

Over the course of discussions, the tech-savvy emerged as being more critical of the concept and potential working of a digital euro, perhaps due to their greater familiarity with digital payment methods.

There was low awareness and knowledge of the digital euro, although awareness was slightly higher in those under 65. It was mostly associated with cryptocurrency and Bitcoin, or with virtual money. Most struggled to understand what benefit the digital euro would have over existing payment methods, and how it would be different.

Those aged 65+ were the most concerned about the concept, while younger age groups worried how older groups would be able to adapt to it. However, some were more positive and viewed the digital euro as a safe and trusted way to support digitalisation. There was general concern about cash being replaced with a digital euro, and this concern increased with age.

6.3 Perspective of merchants

Most merchants in France accepted a variety of payment methods including cash and digital payment methods, with some also accepting cheques. However, for most, cash remained the preferred payment method as it is quick, safe and untraceable, which allows the possibility of avoiding tax by not declaring cash payments. All merchants accepted debit cards and many also accepted mobile payments and payment from connected devices. They had no preference between these different types of digital payment methods. The main downsides of digital methods were the time it takes to receive payment, acceptance, poor signal, and fees.

Merchants were conscious that providing a wide range of payment methods better caters to the variety of customers they encounter. They had observed the digitalisation trend, particularly among younger age groups who make more use of mobile payments. As a result, they must move with the trends in their customers' wants and needs. Although digitalisation would potentially make transactions more secure, merchants also saw it as a way to increase surveillance and control of their business. In addition, accepting many different payment methods requires careful organisation on their part, and can be confusing.

Merchants in France were not aware of the digital euro. They spontaneously saw it as a cash replacement. They did not like the idea of it being compulsory to accept as a payment method, particularly if it involves fees.

The main drivers for merchants to adopt a new payment method were customer needs and societal trends. The other key driver would be instant payments, including the instant verification of payments, which would be a real improvement on current digital options. However, many were sceptical whether this could be achieved. Merchants were interested in the idea of buy-now-pay-later, but only if they are paid instantly – this would work for both them and their customers who want to pay in instalments.

Merchants generally did not have strong relationships with their existing payment providers, so quick and easy access to French speaking support would be an advantage for a new system.

The idea of the digital euro being risk free did not resonate with merchants, as they trust their commercial banks.

The key barrier to adopting the digital euro would be if the fees were higher than current payment options. Moreover, merchants did not want to be forced to adopt a new payment method unless it was due to customer demand.

6.4 Perspective of the unbanked

Most unbanked/underbanked/offliners had used bank accounts in the past but had moved away due to fees and wanting more control over their spending by only using cash. In fact, for most, cash was their only payment method. Some used cheques, while the use of direct debits was rare. For buying online, they made use of friends or family, and later reimbursed them. Some had smartphones, but they either did not have data or only made limited use of apps.

Participants in this group were generally anxious about contactless payment methods. They considered them insecure and worried about hacking, so safety and security would be critical if they were to adopt a digital wallet. They wanted good customer service and low or no fees. A key driver for the unbanked/underbanked/offliners would be a cashback or rewards system. Some would be motivated by features to help them track and manage their finances, including easy access to their balance. It would also be important they could use the digital wallet without an internet connection. Most preferred the option of using this new payment method in a non-contactless way.

7 GERMANY

7.1 Country context: payment habits

The main payment methods used by the general public and the tech-savvy in Germany were cash, debit and credit cards, online banking and PayPal. All age groups still liked to pay with cash, but its popularity increases with age. The method chosen depended on the situation: for smaller amounts in shops cash was used, while larger amounts were usually paid by debit card or online banking. Credit cards and services like PayPal were mainly used for online shopping, and PayPal was also used to send money to friends and family. Mobile payment options were mostly used by the tech-savvy, but younger members of the general population were also more open to trying these services and some used Apple Pay/Google Pay/Samsung Pay. Older participants were more likely to be satisfied with their existing options and were not interested in adopting a new payment method, although some started using credit cards or PayPal due to a specific purchasing need, or because family and friends were using them. Speed and ease were the driving factors for adopting any payment method.

7.2 Perspective of the general public and the tech-savvy

Key elements of a new digital payment method for the general public and the tech-savvy were acceptance, security, and usability. There would also need to be a clear advantage to existing methods. No feature stood out as a key driver. It was more likely that a new system would need to provide a set of features that, once combined, would offer substantial advantages over current payment methods. This was particularly the case for the tech-savvy, who wanted a wide range of features, and wanted to be able to customise those features as they desired – for example, by setting their own privacy level or credit limits. A key driver for adopting a new payment method for the tech-savvy in Germany would be if the new payment option allowed them to streamline the number of methods they already used. The general public was more focussed on ease of use and wide acceptance, with acceptance particularly important for those aged 18-40.

Security was top of mind for the tech-savvy and the general population in Germany. A new digital payment method such as a digital wallet would need to be unhackable, with authentication and strong protection of sensitive data. It would need to be issued by a bank or central bank, as these entities are most trusted and are considered the safest. Data privacy emerged as more of a concern for those across all age groups in Germany than in many other countries, with high privacy mode having appeal across all age groups, but particularly among those aged 65+.

In terms of digital payment methods, PayPal was the benchmark for many in Germany. Therefore, a new payment method would have to at least match the features PayPal offers. One of the reasons PayPal was so popular is its strong buyer protection, which gives consumers confidence and a feeling of security when using it.

Instant money transfers were highly desirable, but unlike other countries, the general public in Germany would like a digital wallet to ask for confirmation and permission for every payment. They would also like these payments to be possible irrespective of the system the other person is using – something they cannot do currently. Other features that would promote uptake include being easy to learn and simple to use, contactless payment, usable online and offline, and available on a device they already own and take with them such as a phone, or jewellery item. There was considerable appeal in a digital payment method that connects to their bank account, displays real time data and balances, and provides a good overview of spending.

Men were more likely to say they have heard of the digital euro compared to women, although awareness was low overall. Spontaneous associations included a cryptocurrency, a replacement for cash (moving to a cash-less society), or a new payment method via card or smartphone. As is the case across the euro area, the general public and the tech-savvy in Germany were not clear how a digital euro would be different from the euro in their bank account. They also wanted to know why the ECB thinks it is necessary, and what advantages it would have over existing payment methods. Many expressed concern that it would lead to increased state control of their money and payments. They expected some parts of the population, especially the elderly, would struggle to use it if such a thing was introduced.

Compared to other euro area countries, awareness of the digital euro among the tech-savvy in Germany was somewhat higher, with some knowing it would be a payment method and non-physical currency. However, common confusions still occurred in thinking it was a cryptocurrency, as well as how it would be different to the euro stored electronically in their bank. The tech-savvy were generally sceptical about a digital euro, with concerns about security in particular.

7.3 Perspective of merchants

Merchants in Germany preferred traditional payment methods like cash, cards or bank transfers. Digital payment methods are deemed costly and are experienced as hard to calculate what the fees are. They also considered digital methods, and cash to some extent, cause extra hassles. If only a few merchants accepted Google Pay or Apple Pay, they generally accepted a variety of other payment methods, including cash, debit or credit card, PayPal, direct debits and bills.

Despite being well regarded by customers, PayPal was less popular with merchants as they consider the balance of protection too far skewed towards the customer's side, and as its fees are high.

In the face of the COVID-19 pandemic, merchants increased the range of payment methods they offer to include things like bank transfers. Merchants noticed a trend towards more digital payment methods, and most were ambivalent about this, as they felt the digital payment space could become overwhelming. For those who adopted a new payment method, the main drivers were quick receipt of payment, demand by clients/customers and (lower) fees.

There was low awareness among merchants of the digital euro, and the common concern about the elimination of cash emerged. However, some thought a digital euro might reduce costs they currently incur with digital payments as it would remove the need for intermediaries.

Key drivers for merchants to adopt the digital euro would be fast payment and low or no fees. Security for both merchant and client would be important features to encourage adopting it – it would need to be at least as safe to use as cash. Risk-freeness would be beneficial, so long as it did not incur costs and there was good client support if there were issues. The new digital payment method would also have to be quick and easy to use. Ideally, it should replace other payment methods to simplify their systems.

Trust would also be important, as some expressed concern a digital euro would mean giving too much information about their business to the ECB. On the other hand, some merchants saw increased data protection as a potential benefit of a digital euro.

7.4 Perspective of the unbanked

Offliners in Germany were all aged 65+. They predominantly used cash, and for large purchases used a debit or credit card. They also made use of standing orders and direct debits. They felt cash gave them a better understanding and control of their spending, although they did worry about losing it. Interestingly, one unbanked user made use of cash, but also PayPal and cryptocurrencies as all these methods are free. Both groups relied on friends or family to help pay for things that they could not pay for with current methods.

There was almost no awareness of the digital euro among this group and all expressed concerns about it replacing cash.

Offliners did not want to change their current payment methods, and it would be hard to find any driver that would make them adopt a new digital wallet. However, if they had to, they would want a familiar format like a card, and it would have to be safe, secure and easy to use. This digital wallet would have to be linked to their bank account. The unbanked were willing to adopt it only if there were no fees, and it was secure and easy to use. They preferred a smartphone or another device like a USB stick.

8 GREECE

8.1 Country context: payment habits

The COVID-19 pandemic fast-tracked the adoption and use of debit and credit cards and contactless payments in the Greek market which had previously been dominated by cash payments. Instead of cash, debit cards were now the main means of payment in shops and online. The additional appeal of debit cards was that many also have loyalty schemes that benefit users, and customers would choose stores based on the loyalty rewards they could earn. The use of cash is also regulated by the government: for example, cash sales of more than €500 are against the law. The use of PayPal for online shopping was less common than in many other countries in the euro area.

Women and those aged 55+ expressed more concern about security and hacking in relation to digital payment methods. The tech-savvy, and the more technologically literate in the general public (mainly males aged 25-45) used digital wallets on their smartphones (e.g. Apple Pay, Google Pay) as well as mobile banking apps, and had been increasingly transitioning away from card-based payments.

8.2 Perspective of the general public and the tech-savvy

The general public and the tech-savvy were not convinced about the value of the new digital wallet proposal over their existing payment methods. Particularly for the tech-savvy, a new digital payment method would need to offer all the features of their existing option, plus additional incentives.

A unique feature of discussions among the general public in Greece was the assumption that a digital euro guaranteed by ECB would mean they could move their money (deposit accounts) to the ECB and stop using commercial banks entirely. This was seen as very positive as the ECB is associated with more safety and better guarantees than commercial banks.

Among the digital wallet features discussed, considered key for the general public and the tech-savvy were acceptance and high privacy mode, although the transaction limit of €150 was seen as a significant drawback to this mode, making it feel more like a prepaid card. High privacy was seen as novel compared to medium and low mode which were seen as currently available and which present some negatives, such as push advertising. Features that have broad appeal were ease of use, availability on a smart device they already carry with them, contactless payment, confirmation of each transaction with a PIN or transaction authentication number (TAN), and an easily available balance and transaction report. The ability to make payments via QR code was also desirable.

In Greece, most preferred the idea of a European entity issuing the digital euro as this was considered the most reliable and secure, as well as being best placed to provide access right across Europe.

There were some interesting demographic differences emerging from conversations with the general public. The manual funding feature was most popular with those aged 40+ to help control their expenses. Instant person-to-person payments were very popular with those aged 18-40 as these would facilitate their day-to-day life (going out with friends and splitting bills, sending money to older peers, etc.). Risk-freeness was only a key feature for those aged 41-64, while for the 65+ age group, high privacy, acceptance, and funding were the key appealing aspects of the digital euro.

For the tech-savvy, integration of all other accounts and cards within the digital wallet to give a complete financial picture was very appealing. They preferred biometric authentication to activate the wallet, with the use of one-time passwords (OTPs) to confirm transactions. They wanted to be able to customise their spending limit, and some raised the idea of checkout-free shopping with the wallet, where payment is automatically taken when you exit the store. Person-to-person transfers were already offered by other services, so, to be appealing, the new digital wallet would need to be able to make payments no matter the service used by the recipient.

Given the popularity in Greece of loyalty schemes attached to debit cards, something similar for the new digital wallet would be key to driving uptake, particularly if this worked as an integrated scheme across all banks.

Few in the general public had heard of the digital euro. Those who had spontaneously associated it with cryptocurrencies. Those under 40 were positive about the possibility of a digital euro, seeing it as offering better security, improving the ease of transactions, and making day-to-day life easier. Those aged 50+, however, were more unsure. Some suspected the digital euro would be of greater benefit to governments and corporations who would use transaction data for marketing purposes to increase their profits.

Greece was one of the few countries where almost all the tech-savvy had heard of the digital euro. They believed it would encounter resistance in Greece as there was still a pro-cash mentality, and they expected people would not like the increased transparency of their transactions in contrast to the anonymity of cash. There was some concern about the impact a digital euro could have on the wider society. However, on the positive side, the introduction of the digital euro would mean less tax evasion, and risk-free account deposits guaranteed by the ECB.

8.3 Perspective of merchants

Merchants accepted cash, debit and credit card payments as well as digital wallet payments and money transfers from customers' bank accounts. Those who sold online also offered a cash on delivery option. PayPal was not favoured as it has a high commission compared to other options. Merchants were reactive rather than proactive in adopting new methods – in their case,

change is driven by customer requests or because of conversations with their bank.

Merchants saw digitalisation in payments as a big trend and had watched online payments grow considerably during the past few years. They thought digital wallets would be the most popular means of payment in the future and were willing to cater for these options to provide service to their customers, particularly as younger customers increasingly ask for these options. Merchants believed that digitalisation would benefit them by offering fast transactions and instant credit to their accounts, making their lives easier and their customers happy.

When it came to payment providers, merchants said they relied on Greek banks and preferred a personal relationship. They expected preferential treatment, such as lower commission rates, low or no cost for POS terminals, as a reward for their longstanding relationships and/or transaction volume. They were content with the current working relationship they had with their bank. In terms of value-added services, apart from reducing the commission they paid on transactions, merchants were interested in having geo-location-based advertising of their business, also linked to the loyalty schemes offered by banks.

Merchants had heard about the digital euro through the media and believed it would have multiple effects, including abolishing the charges and commissions currently imposed by banks for money transfers and debit/credit cards, as well as less tax paid to the Greek state due to absolute transparency. The risk-free nature of a digital euro backed by the ECB was very important.

Key factors for merchants when considering payment methods were cost (in terms of fees) and transaction speed. Instant payments were highly valued – but currently only available if the customer also used the same bank. Merchants said commissions for existing credit/debit card providers were high, which was especially problematic for low-value transactions, so they valued a low or no-fee payment method. They also wanted incentives in return for adopting a new method.

They did not want to incur costs for implementing a new payment terminal. Rather, they suggested using an existing terminal or accepting payments via near-field communication (NFC), a smartphone or smartwatch (as is the case with Viva). They also wanted the ability to accept payments when offline.

Merchants believed a “buy now, pay later” option could work for them if they were to get a payment guarantee from the provider.

8.4 Perspective of the unbanked

The unbanked/underbanked/offliners preferred a simple low technology life and to pay with cash whenever possible. Debit cards were used only when necessary (e.g. running out of cash). Similarly, e-banking was used by some only in very specific circumstances such as for paying taxes. They did not use credit cards or PayPal.

Most had never heard of the digital euro and had no idea what it could be.

There was almost no interest in moving to a new payment method. However, if they did move, they would not want it to be linked to a bank account and they would need significant reassurance about the security of their money and of their transactions. They would require in-person support to set-up and learn to use any new digital payment method.

9 IRELAND

9.1 Country context: payment habits

As Ireland is one of the more technologically mature markets in the euro area, the general public and the tech-savvy made more use of mobile payment options than their counterparts in less technologically mature markets. Revolut was a widely used mobile payment method, although mainly for smaller amounts due to concerns about the lack of a bank guarantee for money in the app. As is the case in most of the euro area, debit cards and cash were the other key means of payment for day-to-day transactions. There was more evidence of recent adoption behaviour in Ireland than in many other countries, with the predominant trends a move away from cash (because of COVID-19) and towards mobile payment options because they were contactless and convenient.

9.2 Perspective of the general public and the tech-savvy

Although many in Ireland already used and liked digital payment methods, the Irish market is saturated with options. It would be a challenge for any new digital payment method to break into this crowded market, so it would need novel and compelling features for it to be considered. Key for the general public and the tech-savvy was not just matching the existing features of their preferred options (for example, instant payments and top-ups and the Vault feature from Revolut) but exceeding them. Revolut was regularly mentioned as a benchmark for a new digital payment method, such as a digital euro. A risk-free digital wallet backed by the ECB was very appealing, particularly as many reported only using Revolut for small purchases as their money was not guaranteed.

Fees and charges were a key barrier to adopting the digital euro, as it would fail to offer enhanced features to the options already available.

For the general public and the tech-savvy, instant payment and acceptance (ideally, worldwide) were the most important features to encourage adoption, followed by risk-freeness. However, there were demographic differences. Those aged 18-40 had more extensive requirements for features, including spending tracking, instant transfers and higher contactless limits. They also preferred convenience over security. Those aged 41+, however, prioritised the security of their payments and were willing to trade convenience and an extensive list of features for it. Those aged 18-40 placed more emphasis on wide acceptance of their digital wallet and the methods used to fund it, while those aged 41+ were more focussed on ease of use, and those aged 65+ attached higher importance on the risk-freeness of the digital euro.

The general public and the tech-savvy were mostly positive about the idea of a digital euro: their main concerns were the potential fees and charges involved, as well as the loss of cash as a payment option.

Awareness of a digital euro was low among the general public and the tech-savvy, and the concept generated a high degree of confusion. The most common association was that the digital euro was a form of cryptocurrency such as Bitcoin that could be used to invest or trade with. Other common suggestions were that the digital euro is a digital currency that could be used to purchase online goods and services and suggestions that we would begin to transition into a cashless society. Both the general public and the tech-savvy struggled to understand how a digital euro would be different to the euro held digitally in their bank that they spent via digital means (contactless, bank transfers, etc).

9.3 Perspective of merchants

As was the case across the euro area, payment methods used by merchants in Ireland were dictated by customer demand. Merchants accepted a wide range of payment options. In the digital realm, they preferred contactless card payments for offline, and Stripe or PayPal for online sales. Revolut got positive feedback as it is free and instant, but their Business Banking option is not used due to the international transfers required so merchants use their personal accounts. Customer service experiences from a range of digital providers were often poor, and fees and charges were often hard to calculate. Merchants would also like better reporting capabilities.

Merchants noticed a reduction in cash and cheque payments and an increase in contactless options being used by customers since the start of the COVID-19 pandemic and this was a key driver for those who had recently adopted a new payment method. Other drivers were customer requests and getting a better deal/rate with a new provider.

Awareness of a digital euro was low. It was strongly associated with the removal of cash which caused concern about reduced options and increased fees and charges for accepting digital payments.

Merchants in Ireland liked the speed, ease and efficiency of their current payment methods, so any new method would have to at least equal them. Instant payments would be a strong driver to taking up the digital euro, and real time live reporting, with better search functions on transaction reports, also appealing features. It was seen essential for the digital euro to have well integrated, reliable hardware and software, and good customer support. It would have to be simple to use and provide seamless integration with their other systems. All these features would help to drive uptake, although the strongest driver to acceptance and use of the digital euro would still be demand from customers.

A key barrier for merchants would be the fees and charges that might be involved. These would need clear explanation in conjunction with the benefits both for them and their customers. More than other participants, merchants were afraid the digital euro would mean the demise of cash and its potential effects on the national banking sector, including on the availability of “regular” banking products.

9.4 Perspective of the unbanked

The main payment method for the unbanked, underbanked and offliners was cash, which they viewed as the most accessible and trusted form of payment. It also offers the option to negotiate with shops and tradespeople for a better deal, as well as providing a clear awareness of how much is being spent. They only used other forms such as debit or credit cards (if they had them) in very specific circumstances such as regular bills or emergencies. They did not use smartphones or smart devices for banking or making payments.

None had heard of a digital euro, and in common with other sectors of the population there was confusion about how a digital euro would be different to the euro held digitally in the bank.

Acceptance would be an important driver for the unbanked/underbanked/offliners, and a method that worked without using the internet was also very appealing.

Underbanked/unbanked/offliners were generally positive about the idea of digital payments, but they were concerned about privacy and security. Privacy was very important, and they only wanted their personal information used for security purposes. They also liked the transparency and the physical sensation of spending cash which cannot be replicated by digital methods. The unbanked would be hardest to convince to adopt as they saw no benefit in a new payment method and were sceptical about the ECB's claims of risk-freeness and security. For offliners, convenience compared to their existing methods was the main barrier to adopting this type of payment method. They preferred a digital wallet monitored and controlled by a public authority, which would be secure and simple to use. Both offliners and the underbanked preferred a digital wallet that works like a contactless debit card, and also allows them to withdraw cash.

Fees and charges would be a barrier to adopting the digital euro for the underbanked/unbanked/offliners in Ireland.

10 ITALY

10.1 Country context: payment habits

In Italy, payment habits varied with age. Those aged 18-40 predominantly used digital and mobile payment methods, but as age increased the use of these methods generally decreased, and those aged 65+ made little use of digital and online payments, with some being resistant or worried about the idea of digital payments.

Cash and debit cards were the most frequently used payment methods for the general public in Italy. Cash was particularly popular with those aged 65+ but it was used across all age groups as it allows spending control, has no fees, and is untraceable. Debit cards (particularly contactless) were the preferred form of digital payment as they were secure, and payment was immediate. Mobile apps were generally less popular, the exception being local mobile app Satispay. This app was particularly popular with those aged 18-40 for its cashback feature and used for person-to-person transfers and shopping. In fact, points programmes that give rewards or cashback were a popular feature of several payment methods, particularly with women.

PayPal was not widely used by the general public but was popular with the tech-savvy for online and offline payments. Most tech-savvy also used Satispay. Like many tech-savvy in the euro area, this group in Italy felt there are already too many payment options.

10.2 Perspective of the general public and the tech-savvy

In Italy, drivers for adopting a new digital payment method varied depending on attitudes to the digital world. Those who were early digital adopters (18-40s, some 41-64s, more often male), had already moved from cash to digital payments, including mobile options. They were willing to use new digital and technological solutions if these are innovative, smart, and provide value.

Those interested in digital payment methods appreciated their innovation and simplicity, even if they did not always understand how they worked. They were attracted to the various novel features of digital payments. Those worried by digital were traditional in their habits. The digital world was often not understood, either technically or emotionally. This group would be hard to convince and would need strong reassurances both in terms of security and the overall fit to their needs. Everything must be easy, secure, smart and free of additional fees.

Across all groups, however, acceptance was key. Currently, no digital payment method was accepted everywhere – cash is the only universally accepted option. Widespread acceptance would be a requirement for participants in Italy to consider adopting a new digital payment method. In this sense, there was scepticism this could be achieved, as it has not occurred with other digital methods, mostly due to merchants' reluctance. In fact, many shops currently did not accept digital payment methods at all.

Security was critical, particularly for those not used to digital payments. Biometric authentication and two-factor authentication were popular, with authentication before each payment desired. The general public and the tech-savvy also wanted to be able to set their own privacy levels.

Offering cashback or rewards would be a popular driver for adoption, as this was already offered by other providers and was a desirable feature.

Person-to-person payments were most appealing to those under 65, and would be a requirement for those aged 18-40 before they adopted a new payment method.

If a new digital payment method could replace other payment methods that would encourage adopting, particularly for the tech-savvy. The tech-savvy also wanted a digital wallet connected to their bank account.

A new solution would have to be fast and easy to use and should work without internet access. It should be able to be used online and offline for any amount, and it should be easy to see how much there is in the wallet and what has been spent. There should be no fees.

When discussing the holding limit of the digital wallet, the consensus was that €3,000 was a very high limit. It made the digital wallet feel more like a credit card than something that would be used for everyday spending.

Only a few in Italy had heard of the digital euro, and there was almost no knowledge of what it would be. It was spontaneously associated with a payment app, a cryptocurrency, a cash replacement, or a common EU way of paying. It was a confusing concept for many, as it was not clear how it would be different to what is already available, or what its benefits would be.

Many were neutral or negative about the digital euro based on the information provided. They saw it as a radical change that is more needed by banks than by everyday consumers. The association with cryptocurrency also caused concerns. Younger age groups were more positive about the idea of a digital euro. They saw it as a progression in digitalisation, and the involvement of the ECB was reassuring. Some thought the European dimension of the digital euro could also be good for trade.

There was interest among the tech-savvy as to whether the digital euro would eliminate intermediaries and save them fees/costs because it was issued and managed by the ECB.

10.3 Perspective of merchants

Cash was the most popular payment method for merchants in Italy as it was the only method that did not involve an additional cost. It also allowed the avoidance of taxes as there was no digital or paper trail. Some merchants had POS facilities for debit and credit card payments, and some accepted Satispay and PayPal. Cheques, bank apps, and money transfers were less widely accepted. For those who offered digital payments, Satispay was the most popular as it had low fees.

Merchants were more focussed on offering the payment services that work for them, rather than being driven by customer demands. They were aware of the trend towards digital payments, especially among the young, but the flexibility that cash gives them was still paramount. There was also hesitancy to use digital methods as they were viewed as risky, with the added disadvantage of additional fees and increased traceability.

Merchants had no knowledge or awareness of the digital euro. They did not trust banks or the ECB and viewed the digital euro as a means for exerting more control over their business. However, some acknowledged the ECB has the credibility to introduce a new payment method that would be widely accepted.

Instant payment would be a powerful driver for adopting the digital euro, as it would be just like cash in terms of cashflow. No fees would also encourage adoption. If fees were required, then some merchants would prefer a fixed annual fee rather than the percentage of transaction model used by existing digital methods.

Cashback (as offered by Satispay) was very popular with customers so this would be another feature to drive adoption. In addition, the system should be easy to use for them and their customers and allow them to simplify payment methods.

10.4 Perspective of the unbanked

As was the case in most euro area countries, the unbanked/underbanked/off-liners in Italy used cash for their payments as it was widely accepted, safe and secure. This group worried about the costs and the security of digital payments. They felt they did not have enough skills and knowledge to use digital methods and had little or no desire to start using digital payment methods. Cash appealed to them because it allowed them to manage spending, something they felt digital did not do. This group did not shop online.

None had heard of the digital euro, and even when the concept was introduced, their lack of digital knowledge meant they were still very confused about it.

The key barrier to adopting a digital euro for the unbanked/underbanked/off-liners would be their reluctance to use any kind of digital payment. These payment methods were viewed as insecure, risky and traceable – unlike cash. They also felt merchants preferred cash. If the digital euro were to require a bank account, this would be a barrier, as some in this group did not want to open one.

To be adopted by this group, a new digital payment method would have to be easy to use, accepted everywhere, and have no costs. They did not want to have to use apps or digital connections to check their balance, but preferred other methods such as ATMs. The idea of payments being untraceable also appealed to this cohort.

11 LATVIA

11.1 Country context: payment habits

In Latvia, the general public used a mix of payment methods to suit the occasion including debit and credit card, cash, instant bank transfers via internet banking or the bank's mobile app, as well as automatic payments. Many also used mobile payment apps such as Apple Wallet and electronic money systems like PayPal, with Apple Wallet users most likely to be aged 18-24. However, cash was still important as it was the only payment method accepted everywhere, with men aged 25-54 the most likely to use cash as their main payment method.

The tech-savvy in Latvia used the same range of payment options but relied more heavily on digital methods. They mainly used online banking (either through apps or on a computer), and made more use of payment systems such as PayPal, Apple Pay and Revolut, as well as the NFC function of their banking app.

11.2 Perspective of the general public and the tech-savvy

The general perception in Latvia was that there were plenty of digital payment options available, so they would need to understand why a new digital payment method was needed and how it is different from other payment methods before embracing it. The main reasons why people adopted a new payment method were a recommendation by a trusted person, its widespread use by others, readily available information about the method from a wide variety of channels (e.g. media, banks), and that it was not expensive to use. The digital wallet would thus have to meet these criteria.

Acceptance and person-to-person payments would be key in a new digital payment method as these were the areas where people currently experience issues with their existing payment methods. The digital wallet must be able to be used everywhere in Latvia and the euro area, for any amount. However, participants expressed doubts this could be achieved, given that there were currently many places in Latvia that did not accept digital payment methods at all. Person-to-person payments are essential in everyday life, so the wallet would need not only to allow them, but to make them easier and more accessible to all.

A “total wallet solution” was desirable for many. The general public and the tech-savvy in Latvia would like the wallet to incorporate not only payment methods, but also their loyalty and ID cards so it would become a complete wallet replacement. Instant payments were highly valued, and the wallet would have to be quick and easy to use without a complicated set-up. For it to be considered, it would also have to be free, or less expensive to use than current payment methods.

Those in Latvia wanted the ability to personalise their privacy settings and choose their own funding model. When it comes to the funding feature, it was important for them to be able to withdraw money from the wallet back to their account.

The appeal of other features varied by age group. Those aged 18-24 focused on the ability to connect their wallet to their phone and to replace cash entirely. This age group wanted to be able to organise expenses through their wallet, as well as to have easy access to the balance and transaction details. They would like a wallet that is fast and easy to use. Conditional payment solutions such as shopping without needing to pass by the checkout, was another desirable feature for this age group.

Those aged 25 to 54 placed more emphasis on security features like biometric or two-factor authentication and being able to control the information sent to the bank. Being able to view and manage expenses in their wallet was also important to this age group, as was a wallet that was easy to understand and use. It was important to this age group that the wallet works without internet access. There was a general preference for the digital wallet to work like a payment card, although women in this age group would like the wallet to be embedded in an accessory, such as a ring or bracelet.

Those aged 55+ placed even more emphasis on the safety and security of a digital wallet, as well as the privacy of their data. Moreover, they would like regular financial transactions to be executed automatically by their wallet. Other aspects like ease of use, access to balance, and expense management, were also important to them.

The idea of risk-freeness of the digital euro was most appealing to women and those aged 65+, but there was a general feeling that the ECB is more trustworthy than commercial banks, so this would be a positive feature of the digital euro.

Only a few in the general public and the tech-savvy had heard of the digital euro, and these people were mostly in the 25+ age group. There was little knowledge about it, and confusion about what the potential benefits of the digital euro would be. There was general concern that it would replace cash, although the fact that it would be guaranteed by the central bank was viewed favourably. Within the general public some aged 25-54 worried about increased monitoring and control through digital transactions, while those aged 55+ were more likely to worry about learning how to use a digital euro.

11.3 Perspective of merchants

Merchants tried to offer all the payment methods requested by their customers: cash, bank transfers, credit card, PayPal, mobile payments and Stripe. Card payments were preferred, and the same was true for mobile payments, as they were perceived to be very much like a card. In the event of high customer demand for a new method, the merchant would research the costs and benefits of the specific method. If the first do not exceed the second, then merchants would be likely to introduce the new payment method. It was important for merchants that payments are quick and easy for the customer to make, and that customers are satisfied.

Merchants thought there are already plenty of payment options available, so they saw no need for a new one.

Any new payment method should be as fast and convenient as possible, especially for remote purchases. It should also be easy to connect the payment method to existing business systems, and it should be cost-effective to manage.

Merchants in Latvia saw digitalisation as a positive process. Most had heard of the digital euro, but they had little knowledge about it. They did not understand how this new digital euro would differ from the existing electronic euro in a bank account, why it is being introduced, or the advantages it would bring to merchants and customers.

Having the digital euro as an official means of payment issued by the ECB contributed significantly to its credibility. The risk-free element was also important, although some merchants felt this was already assured by current payment methods.

11.4 Perspective of the unbanked

The unbanked/underbanked/offliners were mostly seniors and cited age and an inability to use technology as the main reasons for avoiding banking services, or the internet. Some did not have a smartphone or computer with internet connection. However, some were willing to learn to use digital methods if there was a young person in their family to teach them. This group preferred to use cash for everyday payments and even those with a bank account mainly used it just to withdraw cash.

The unbanked/underbanked/offliners had no real interest in learning to use a new payment method. The only circumstance in which they saw themselves adopting it was if they were persuaded and trained to use it by a trusted person, such as a relative. Furthermore, they saw no valid reason to adopt a new payment method as they can pay for everything they need, only by using cash.

None of this group had heard of the digital euro and could not speculate on what it might be.

12 LITHUANIA

12.1 Country context: payment habits

Debit and credit cards and bank transfers were the most common payment methods in Lithuania. There has been an increase in the use of contactless cards, driven by the banks who have been replacing non-contactless cards with contactless versions. Cash was used, but not by all. Bank transfers were popular for paying online and for making regular payments. Mobile payment apps – normally those offered by local banks – were rarely used by the general public who are concerned about their safety, security and usability.

On the other hand, the tech-savvy in Lithuania used a range of digital payment methods including e-banking services, payment apps, and one-time payment cards. Apple Pay, Google Pay, PayPal, and Revolut were also used. This group rarely used cash unless they could not pay with an alternative method. Revolut was attractive to some as it allows for payment, investing and free withdrawals in any country (compared to the banks which charge for this). However, the Russian origin of Revolut made it undesirable for some.

12.2 Perspective of the general public and the tech-savvy

In a common theme across the euro area, those in Lithuania were happy with their existing payment options and saw no need for additional ones. They were not sure why they would put money into a new digital payment method like the digital wallet proposed when it is safe in a bank account which additionally allows for saving. In fact, many suggested they would want the ability to transfer money out of their wallet to a bank account, so the wallet balance does not get too high.

However, if this new digital wallet were to function like Revolut and could function as more than just a payment tool, then there would be more interest in it. A key driver would be wide acceptance for shopping online and in physical stores. Some would also like it to come with insurance schemes (like PayPal's buyer protection) or the option to delay payment, which ensures a seller is legitimate.

Desirable wallet features included contactless payment and biometric authentication. Moreover, it would have to be safe and easy to use. However, many judged security to be more important than convenience. Payment by QR code was not deemed so desirable, since this technology is not widely used in Lithuania.

Another essential feature was the ability to see how much money is in the wallet and to get reports on spending. People wanted to be able to analyse expenses and to group them according to the types of products bought.

Person-to-person payments were already offered by commercial bank apps so this feature would have to be offered. Payments would have to be instant and possible between any banks operating in the EU. It would be very appealing if payments were also possible no matter what system the recipient is using.

As a potential differentiator, it would be important for the wallet to operate without internet access, as this is something current payment methods do not offer.

The feature of high privacy mode was appealing as it was something not currently offered by banks, but there was scepticism that it would be possible to achieve it. High privacy was also more important to older age groups than those aged 18-40. Being able to customise the privacy settings of the wallet would be appreciated by many, especially the tech-savvy.

Funding may be a barrier to adoption as it was viewed as an unnecessary extra step that is not required when one uses a debit card.

For some respondents, the wallet provider was an important aspect – only the EU, the United States, and service providers from countries with Western values were trusted. On the contrary, providers from countries including Russia and China were not trusted.

Some participants viewed the idea of a digital wallet as a bank account replacement. These people would want functions as close as possible to a bank account. For those who viewed the digital wallet as a bank account replacement, the limit of €3,000 in secured funds was too low compared to the €100,000 they can have in their bank. Paying an extra fee to increase the limit would be perceived as a penalty for saving. If a digital wallet is conceived only as a wallet, then this limit would be acceptable as excess money could stay in a bank account where it would not cost extra.

Most had no awareness or knowledge of a digital euro and associated it with cryptocurrencies. Some spontaneously said it would be a replacement for cash. When the concept was explained, the general public and the tech-savvy found it hard to see the difference between it and a euro held digitally in their bank. The fact that it would be free, as well as issued and controlled by the ECB, was seen as positive. However, there was concern that it would lead to increased control, as it would not be as anonymous as spending cash.

Some thought a digital euro was progress for the sake of progress, and thought the central banks were looking to take over the functions of commercial banks, in order to increase control over transactions and force the demise of cash. Although it was not the most widely used payment method, some participants had an emotional connection to cash and were not ready to give it up.

12.3 Perspective of merchants

Merchants that only operate within Lithuania used the services of local banks and transacted in cash as well as credit and debit cards. Those who operate internationally also used digital payment options such as PayPal and Paysera. Merchants did not seek out new payment options and none had introduced a new option

within the last 3 years. It was important for merchants that customers are familiar with their payment methods, so they do not lose customers because paying is too complex. They saw the extra verification steps used by online payment services as inconvenient even though they contribute to payment security.

Attitudes to fees varied. Merchants selling their own products incorporated fees into their payment price. Those selling good from others were often constrained by the supplier price, meaning they risked incurring losses. For this reason, transactions between banks were favoured by these merchants because they were the least costly.

Merchants had never heard of the digital euro and did not understand the difference between it and the euro held in the bank. They were also unsure how it would work in the case of cross-currency transactions.

Instant payment by itself would not be a key driver for adopting the digital euro, as the majority of payments are already instant. The main drivers of adoption for merchants would be its convenience for customers and its diffusion.

12.4 Perspective of the unbanked

The unbanked/underbanked/offliners were suspicious of banks, as many lost money when the Soviet Union collapsed. They were concerned that this could happen again, particularly because, given their older age, they could not afford to lose any money. This group had little understanding of how banks function.

Cash was their preferred payment method. Although some had cards, they rarely used them for everyday shopping. To pay bills they often used Perlas (terminals that allow bill payment, cash remittance to bank accounts in Lithuania and cash withdrawal services). This option is widely available, including in towns with no bank. The unbanked/underbanked/offliners did not like the internet and did not use it as they were worried about security.

Some thought they had heard of the digital euro, but they confused it with a cryptocurrency and therefore they saw it in a negative light.

There was no willingness to adopt a new digital payment method, and it would take the restriction or disappearance of cash for them to change their behaviour. Given this, it was hard to get the unbanked/underbanked/offliners to think about desirable features. Given their positioning towards banks, they did not want a wallet that is connected to a bank account.

For this target, a new digital payment method would have to be safe and secure, although they worried that they would not be able to understand and use any authentication process properly. Low balance alerts and alerts when money is loaded were desirable features, as was the ability to easily charge the wallet's battery.

13 LUXEMBOURG

13.1 Country context: payment habits

The general public in Luxembourg primarily used debit or credit cards for everyday shopping and expenses. The use of cash was decreasing, particularly since the pandemic. It was still used but mostly in small shops for amounts of €50 or less. Mobile apps were also used – with Digicash being popular to pay friends or pay bills. The tech-savvy made more use of mobile payment options generally, particularly Apple Pay and Payconiq. Payconiq was also increasing in popularity with the general public.

Payment habits varied by age group, with those aged 18-40 relying on credit and debit cards and rarely using cash. Those aged 41-64 used a mix of credit/debit cards and cash for small amounts. Those aged 65+ would use more cash, but the pandemic had increasingly pushed them to use credit and debit cards for all their transactions.

13.2 Perspective of the general public and the tech-savvy

Although most of the general public and the tech-savvy in Luxembourg found it hard to imagine how a new digital payment method could be better than the existing options, they indicated to be willing to adopt a new method if it is safe, fast, easy to use, and accepted everywhere.

Acceptance everywhere for any amount would be critical as some still experience issues with their preferred method not being accepted (for example a merchant not accepting card payments). Acceptance across the euro area would make the digital wallet even more appealing. In fact, acceptance was the most important aspect for all age groups when considering this new digital wallet.

The ability to make person-to-person payments was also important for all age groups. Most already used this feature in Payconiq so it would be essential the wallet offers this facility. Instant transfers were also very appealing.

Privacy also ranked as one of the three most important features for all age groups. Most aged 65+ were interested in the high privacy setting, although they felt this makes the wallet like a prepaid card which already exists. Respondents aged 18-40 also liked the high privacy feature but would not adopt it as the limit of €150 was too low for the wallet to be useful. The high privacy level did not appeal to 41-64 year olds, who liked all the features of the low privacy option except the advertising.

It was important for most to be using the same payment methods their friends, as this makes life easier.

The general public and the tech-savvy wanted biometric authentication for their payments. The tech-savvy were more focused on the security aspects of the wallet and were also interested in having a token on their mobile or Google authenticator.

In Luxembourg, there was a slight preference for a wallet to be provided by a European entity, and some mentioned integrating it with LuxTrust for authentication purposes.

The wallet must be easy to use and navigate and must show the current balance as well as details of what had been spent. The ability to label and organise expenses was desirable.

When it came to funding the digital wallet, those aged 65+ preferred automatic funding, while younger age groups and the tech-savvy wanted manual funding.

All groups liked the risk-free aspect of the digital euro, although it became more important as age increased. However, its ability to drive adoption was limited by the €3,000 cap, which was unpopular in Luxembourg.

In Luxembourg, there was some awareness of the digital euro, particularly among men under 65 years of age who understood it to be a type of digital cash and a new digital payment method. Those who had not heard of it associated the digital euro with cryptocurrencies, an electronic currency, the end of cash, and an evolution in payment methods.

The safety and security aspects of the digital euro were viewed positively. The main negative association was a sense of increased external control over what they were buying and data protection issues relating to transaction information. There was also confusion about who would benefit from a digital euro and whether it would imply the end of cash.

13.3 Perspective of merchants

Merchants in Luxembourg indicated they accepted a wide range of payments including cash, cards, digital wallets, and payment apps. Although they were not widely used, merchants liked digital methods such as Payconiq, SumUp and Apple Pay because they are fast and easy both for them and the customer. They also felt it was positive for their image if they offered modern payment methods. PayPal was also popular, and it was described as easy to set up and with good customer service. Merchants disliked the fees associated with some payment methods (cards, PayPal) and the time that it took to receive payment for card transactions.

The main drivers for merchants to adopt a new payment method were its popularity, and whether it allowed the customer to pay quickly. This would attract more customers and generate more sales. They also valued a secure system that credits money to their account quickly and has low fees.

Merchants had a range of suggestions to improve their existing payment methods. They would like to be able to use a terminal to deposit cash, and for it to be credited more quickly to their account. They would like credit cards to be able to be used by swiping a phone and would appreciate more transparency over transaction fees. The QR code system used by Payconiq was seen as complicated and could be improved.

Merchants saw a clear trend in the digitisation of payment methods, and they thought this would have a positive impact on their business by simplifying payment methods.

Most had heard of the digital euro and would be interested in offering it if it becomes legal tender and popular. Their main concern was about the cost to them of offering it in terms of fees and potential hardware costs of a terminal etc.

Instant payments were extremely appealing to all merchants as they would increase payment security and improve cashflow. The idea of risk-free payment was appealing to merchants, but it would depend on the amount that is guaranteed. The ability to manage loyalty cards and give cashback within the same payment system would also encourage merchants to adopt the digital euro.

13.4 Perspective of the unbanked

In Luxembourg, this group was made up of offliners and the underbanked. Offliners were all 65+ and did not use the internet because they were not interested in technology and found it too difficult to use without help. They made almost all of their payments using credit or debit cards. The underbanked equally used cards for payment.

Offliners had no interest in adopting a digital payment method. The underbanked, on the other hand, were interested in the idea of a digital wallet that would give them a secure payment method linked to their bank account. The idea of being able to pay by QR code was also appealing.

None of the offliners or underbanked had heard about the digital euro, and most found the idea confusing.

14 MALTA

14.1 Country context: payment habits

The general public in Malta used a range of payment methods depending on the occasion. Cash and credit and debit cards were the most widely used for day-to-day shopping. Cash was popular as it is safe and accepted everywhere for any amount and used for smaller day to day payments. Cards were quick and efficient, but they were not accepted everywhere, and the same applied to mobile payments such as Apple Pay. Banking apps and particularly Revolut were widely used for person-to-person payments and for online shopping. Revolut was also starting to be accepted in shops, increasing its use. Direct debits were used to pay bills, and sometimes cheques were also used for this purpose.

The tech-savvy relied predominantly on mobile payments including Revolut and PayPal.

Some in Malta complained about the slow and difficult customer service process when issues arise with digital payment services.

14.2 Perspective of the general population and the tech-savvy

Discussions in Malta highlighted that those aged 18-40 and the tech-savvy were most likely to adopt a new digital payment method such as a digital wallet. However, a recurring theme across all age groups was the willingness to try out a new digital payment method only after this has been adopted by other acquaintances. The value-added features proposed for the digital wallet were appealing, although safety was considered more important than any of the other perks.

Acceptance would be key for all age groups – there would be no value in a digital wallet unless it can be used everywhere for any amount. The concept of risk-freeness was most important to those aged 41+. For those in the 18-40 age group, person-to-person payments would be a key feature, but this was less of a priority for those aged 41+. If person-to-person payments could be made regardless of the app the other person is using, this feature would appeal to the young and the tech-savvy, since this would be new compared to existing options.

Although a high privacy mode was appealing to those aged 65+, the consensus across all age groups was that they would want the ability to choose their own privacy settings.

The new digital wallet should be fast and easy to use and should provide instant support when help is needed. Payment should be contactless or by scanning a QR code. The ability to make contactless payments was rated as more important than security by some. Others wanted confirmation before each transaction with biometric authentication preferred over PIN codes. Some suggested other security methods, such as questions in an app or text messages (OTPs).

Fast top-ups and instant payments would be important to encourage adoption.

An appealing feature would be if the wallet could store all their cards and payment methods in one place, simplifying their financial management. It should work like a card and be able to be kept on a smart device. It should be secure and well-regulated, with clear procedures to avoid charges if it is lost. Those in Malta did not want to pay to use the digital wallet.

The idea of a spending cap was not popular in Malta, as it is seen as a form of restriction and control over how they spend their own money.

Programmability was a key feature for the tech-savvy as they already use it in other payment methods, and the idea of setting up and customising conditional payments was also popular.

There was little awareness of the digital euro in Malta, and it was spontaneously associated with cryptocurrencies and Bitcoin or a form of digital money. Some were confused about how a digital euro would be different from the current electronic form of banknotes and virtual cards, and they questioned the need for another new payment method. They thought the main issue would be that current forms of payment like virtual cards are not accepted everywhere. If they were, there would be no need for a digital euro.

The idea of a digital euro issued and regulated by the central bank was seen as positive by many in Malta. If robust and secure, most would be open to using the digital euro as a new payment method.

14.3 Perspective of merchants

Merchants in Malta accepted a range of payment options including cash, debit/ credit cards, bank transfers, cheque, and instant mobile to mobile payments, although acceptance of mobile payments was not widespread. Demand from customers was the main criterion for offering a payment method.

Merchants liked the safety and convenience of card payments as it reduces the need for cash and the risk of theft. Fees were an issue for some merchants, particularly food merchants and small local bars who had lower transaction values. Card payments also relied on good internet connectivity, which was not always guaranteed. Cash had its own issues, with the risk of theft and the need to go to the bank to deposit it.

The pace of digitalisation is slower in Malta than in many other markets in the euro area, and there was considerable resistance to digital payment methods, particularly from older merchants. Some distrusted digital payment methods, while others said their customers almost always want to pay with cash.

Merchants were generally happy with the customer service they received from their current payment providers.

Merchants would like it to be easier to identify the difference between a legal and a counterfeit banknote when accepting cash. For digital payment methods, improving the stability and reliability of the internet connection was seen as key to avoid downtime in payment systems. Merchants would like to see more awareness of mobile payment options both among customers and among other retailers.

Most merchants had not heard of the digital euro, but they had heard that cash would be phased out. The digital euro was viewed with scepticism and seen as a way for the ECB to control money and how it is used by both merchants and consumers. Merchants who already used digital methods were open to adopting the digital euro if there were customer demand and it were to become a tried and tested option. However, merchants who did not use digital methods were unwilling to adopt the digital euro unless they were to have no choice (e.g., if cash was phased out).

After customer demand, the main criteria for adopting a new digital payment method were instant payment and safety. Low or no fees were also desirable.

The idea of instant payments was very appealing to merchants and would motivate some to adopt the digital euro. It would also have to be a robust and safe system and not have any additional fees. The element of risk-freeness was attractive but would not be a driver for adopting the digital euro.

14.4 Perspective of the unbanked

Most underbanked/offliners were retired and aged 65+. They had a bank account to receive their pension but withdrew it in cash from the bank and primarily used cash for their day-to-day spending. They did not make use of other banking services because cash is easy to use and track and was accepted everywhere. Bills were paid in cash at the post office. If this payment method were not possible, the underbanked/offliners would ask someone else to pay the bill for them.

This group was not in favour of adopting a new digital payment method. They had little understanding of digital technology and would need considerable support from a trusted person, such as a family member, to learn to use a digital wallet. If they had to think about it, they would prefer a method that did not require connection to the internet. It would have to be simple to understand and easy to use, and they would not mind if it were connected to their bank account.

They had not heard of the digital euro and knew nothing about it.

15 PORTUGAL

15.1 Country context: payment habits

The most popular payment methods for the general public in Portugal were cash, debit cards, and bank transfers, although banking apps were also used. Cash was mostly used for small daily purchases as it is widely accepted and tax exempt, with debit cards being used for larger everyday purchases. Direct debits were used for regular expenses, while bank transfers and credit cards were used for online shopping and large value purchases. Mobile payment apps (e.g. MBWay, Revolut) were used by some for everyday purchases and person-to-person transfers, predominantly by those aged 18-40. Those aged 65+ were the most risk averse when it came to payment methods.

18-40-year-olds and women were the most likely to have recently adopted new payment methods – usually mobile payment apps or electronic money schemes.

The tech-savvy relied heavily on mobile payment options for everyday shopping, and most did not carry cash or a physical wallet. Revolut was also popular for travelling, as was paying with cryptocurrency. Some used Apple Pay but were restricted by the fact that not all banks offered it. For online shopping, they preferred PayPal and virtual cards as they liked the fact that they did not have to give their card or bank details online.

15.2 Perspective of the general public and the tech-savvy

Wide acceptance was the most important feature for using a digital wallet: being accepted by all merchants and shops in-store and online was the most important aspect, followed by being widely accepted across the euro area. Some reported issues with acceptance for their current payment methods, so universal acceptance would be a powerful driver – particularly if it were to mean they could use it anywhere in Europe and give up other payment means that have high fees.

Safety and security were also important, with biometric authorisation of payments preferred. The wallet should be convenient and easy to use, with instant funding, instant transfers, and person-to-person payments. Those surveyed in Portugal also valued receiving proof of payment and this might be an important driver for adopting a new digital payment method. Person-to-person payments were already used widely, but if the digital euro could overcome the disadvantages of current methods (fees, limited transfers per month, everyone needs to have the same app) then this would be a powerful driver for its adoption.

The fact that the digital euro would be issued by the central bank immediately conveyed security and could be a potential driver for adopting a new digital payment method. However, the risk-freeness feature of the digital euro lost some relevance when participants considered that the €3,000 limit is a much smaller amount compared to what they can keep, and have guaranteed, in their bank account.

Among the more unusual other wallet features suggested by those in Portugal was having a mechanism in the wallet for instant saving – for example, by rounding up the value of a purchase and saving the difference. They would also like the possibility to invest via this new digital wallet by buying cryptocurrencies, stocks and so on. Some would like the digital wallet to identify the best account or card to be used when making a purchase, taking into account all the available promotions and reward schemes. Benefits such as insurance and cashback were also mentioned as popular features.

A wallet that can integrate all their payment methods into one device was very appealing to simplify financial management, as was one that could work when there was no internet access. The tech-savvy in particular valued clear transaction reporting including what payment was made, where and from what account.

Some would like their wallet to be able to create one-time virtual cards, as can be done with Revolut. The tech-savvy in particular placed a high value on paying online using services like PayPal and Revolut so they do not have to expose their card or bank account details. Offering this feature would thus be key to encouraging them to adopt the digital wallet.

There were some demographic differences in terms of desirable features, with instant and direct transfers more valued by men and the younger age groups. Contactless payment and payment by QR code were more likely to be valued by women. Management functionalities (such as labelling expenses in categories and programming payments) were more attractive to younger age groups. Data privacy concerns were most widespread among those aged 40+, while ease of use was most important to those aged 65+.

Although awareness of the digital euro was low, knowledge of it was higher. Those who had heard of it, said it would be like the euro but in digital form and provide a safe digital payment method. Those who had not heard of it, associated it with virtual money, a mobile app, or a cryptocurrency. The general public and the tech-savvy did not fully understand how the digital euro would be different from the money they have in the bank and spend digitally, with women and older age groups the most likely to be confused by the concept.

The association with the ECB was viewed positively, with some also expecting that having an account directly with the central bank would involve fewer costs and lower taxes. The overall concept of a digital euro was most popular with those aged 18-40.

15.3 Perspective of merchants

Merchants in Portugal accepted a wide range of payments to maximise their chances of making sales. Methods included cash, debit cards, bank transfers, local payment service MBWay and electronic money schemes like PayPal. Mobile payment apps (mostly MBWay) were seen as simple, fast and direct payment with no associated taxes. They were preferred to cash as there was no risk of counterfeits, they were faster than taking money and counting out change, and they did not require trips to the bank to deposit money. However, the disadvantage was that they (and particularly MBWay) limited how much money can be received in a month, and they did not offer printing of receipts or international transfers.

The fees and costs associated with payment methods were the main issue for merchants, as they absorbed some profits. Merchants also complained about poor service from providers – in particular the time taken to respond to issues with terminals. In addition, having a lot of different payment methods with different terms and conditions, costs and speed of payment created more complexity when managing their business.

Digitalisation was seen as unstoppable, and mobile payments were already widely used by younger generations. Merchants liked digital methods as they are easier and they thought they promoted buying and impulse purchasing, thus improving sales.

Few merchants had heard about the digital euro, and they knew little about it. However, they viewed it as a way of controlling all the money being transacted in the European territory and of controlling the people. This raised privacy concerns, as well as a feeling that the ECB would have too much power to the detriment of commercial banks. The idea of risk-freeness was not convincing as merchants thought even central banks could fail and countries could go bankrupt.

Consumer demand was the key driver for adopting a new payment method, although merchants also took into consideration the reputation of the provider, payment security and costs. The method would have to be safe, easy to use, allow instant payment, and there should be no taxes. Incentives (vouchers to consumers and retailers) were also judged important. Merchants liked the idea of loyalty schemes to stimulate sales, but they were not enthusiastic about “buy now, pay later”. Even if payment were to be guaranteed, they assumed indeed there would be long payment terms (90 to 120 days).

15.4 Perspective of the unbanked

The unbanked/underbanked/offliners paid with cash wherever possible and did not like the idea of digital payments at all. The exceptions were the offliners, who were more likely to make payments for everyday items using debit or pre-paid cards, and only used cash for small purchases. However, they made bank deposits when they wanted proof of payment (e.g. for rent). The offliners were all in older age groups and some used trips to the bank or ATM to pay bills as a reason to get out of the house. For them, online represented being able to do everything from the living room which is something they wanted to resist.

There was no knowledge or awareness of the digital euro, and the unbanked/underbanked/offliners found the concept abstract and difficult to understand.

The unbanked/underbanked were not interested in a digital wallet and it would be very difficult to get them to adopt it. Offliners were slightly more open to the idea, particularly if it were in a familiar format (card with a chip), had no fees and an overdraft option for periods of financial difficulty. All said they would need personal support from a tech-savvy relative or from the bank to set up and learn how to use such a device.

16 SLOVAKIA

16.1 Country context: payment habits

Debit cards (mostly contactless) were used for payments by all age-groups. They were considered simple, practical and gave a good overview of expenses. However, participants complained that they were not accepted everywhere, and in some places, they could only be used for purchases over a certain amount. There were sometimes technical issues with internet connectivity or terminal failure. Cash was not widely used although people carry small amounts (up to €20) for contingencies where they cannot use a debit card. Mobile payments were becoming increasingly popular with younger people but were also used by older generations. Mobile payment options were also widely used by the tech-savvy.

Online purchases were made with cards, but sometimes via cash on delivery (COD). The tech-savvy and younger age groups in the general public also used PayPal or one-time virtual credit cards for online shopping. Regular bills were paid via standing orders, direct debits, or money transfers from the bank via mobile or internet banking. Credit cards were not popular in Slovakia as they are seen as having unfavourable conditions.

Payment via QR code was starting to be used by some of the tech-savvy, not just for paying invoices but also for person-to-person payment such as splitting bills at social occasions.

16.2 Perspective of the general public and the tech-savvy

When considering a new digital payment method, the tech-savvy and the general public wanted something that was user-friendly, fast and secure. Of all the potential digital wallet features discussed, wide acceptance and instant person-to-person payments were the most appealing. The wider the acceptance, the greater the willingness to adopt it as this would solve a current issue with acceptance for other payment methods. However, compared to some payment methods and platforms, such as Revolut, the digital wallet would be at a disadvantage if it were only accepted within the EU and not worldwide.

Instant person-to-person payments were a significant advantage of the digital wallet. However, some thought that over time the competitive advantage of this feature might be lost as the three largest banks in Slovakia have recently introduced free instant payments. If the digital euro method were simpler and universal, so that the recipient did not need to be using the same system, then it would retain the advantage.

Other key features of a digital wallet for those in Slovakia were contactless payment, ready access to the balance and an overview or report of spending. A functional comparison to a current account was made by some. Payment authorisation should be biometric or multi-level (biometric and an OTP/PIN), depending on the kind of transaction and the amount being spent. Ideally, the wallet would learn these authorisation rules when it is being used, and so it can prompt for additional verification in the right circumstances.

Another functionality suggested by some was for the digital wallet to be able to evaluate the best account to make a payment from (based on offers, fees or balances), or to be able to analyse spending and offer goods and services in advance based on past behaviour. Some would like to be able to load their store and loyalty cards onto the wallet to reduce what they need to carry. The ability to use the wallet when there is no internet was also a popular feature.

The tech-savvy and the general public would want to choose the device the wallet is on, with everyday items like keychains, glasses and jewellery being the most popular choices. Whatever device it is on should be commonly available and not require a new purchase.

Some viewed risk-freeness as a considerable advantage, but this would not be a key driver as most saw it as irrelevant given that they feel the money in their bank is safe. Increased privacy protection would play almost no role in deciding whether to set up a digital wallet, but the ability to choose between privacy modes in the digital wallet does appeal to some.

Funding may be a barrier to adoption as it seems like an unnecessary extra step compared to existing payment methods like cards and smartphones that allow payment directly from a bank account. In addition, most thought €3,000 was an unnecessarily high limit, because they would use the digital wallet only for small, everyday purchases.

There was some awareness of the digital euro among the general public and the tech-savvy, but most had no concrete idea of what it was. It was spontaneously associated with cryptocurrency, virtual money, digital payment and a currency that was intended primarily for online payment. It was not clear how it would be different from the euros held in a bank account. In principle, however, the concept was received fairly positively once explained. The digital euro was seen to represent progress and the involvement of the ECB gave a feeling of security. However, some were concerned it might lead to excessive control and a greater centralisation of power

16.3 Perspective of merchants

Cash and debit or credit cards were the main payment methods used by merchants in Slovakia. Cash is easy to use and handle, while payment by card is also convenient for the merchants themselves because there is less handling and no need to go to the bank to deposit takings. Direct payment to a bank account, or through invoices was also used by some.

Customer demand was the main reason considered by merchants for offering specific payment methods. As a result, many merchants offered cashless payment options due to the recent higher demand for this method, and digital payment methods in general. As many customers now carry no more than €20 in cash on them, offering other options is important for sales not to be lost.

Merchants were often unsure about the fees they pay for using different payment methods, as they can vary according to the amount of the sale. Seasonal sellers did not like them as the fees are fixed irrespective of when they are selling. Although fees were an issue, merchants are customer-focused and did not discourage customers from using, what they consider, more expensive payment methods.

The idea of a "buy now, pay later" feature sparked several concerns from merchants, including the additional work for them to chase the customer, the additional costs for them if the provider managed this issue, and the question of who would be responsible for any losses incurred.

There was little knowledge or awareness of the digital euro among merchants in Slovakia. When the concept was explained, they reacted with caution and slightly sceptically, but were not opposed to the idea. If there were to be sufficient customer demand, they indicated they would follow and adopt it.

For merchants themselves, factors they would look for in a digital euro were the speed of payment, the reliability of the system and how easy it is for them to use. Immediate payment, and the ability to pay even if not connected to the internet were seen as considerable advantages, particularly if this does not cost them more in fees.

16.4 Perspective of the unbanked

The unbanked/underbanked had used an account in the past but their current circumstances meant they did want or need one now. They preferred to pay in cash, and some used the bank account of family or friends to receive payments like their salary in order to avoid having an account of their own. Offliners were older and were not interested in learning new digital means of payment. They did sometimes pay by card but mainly used the card to withdraw cash from ATMs. Regular bills were usually paid by cheque at a post office. Digital payment did not appeal to this group: they preferred cash, because it is accepted everywhere and does not rely on technology that can fail.

None had any knowledge or awareness of the digital euro.

With regard to digital payment methods, the unbanked/underbanked were interested in the idea of instant person-to-person payments, although they claimed this is something they can already do with cash. Some were interested in the ability to pay offline, and to make payments that are untraceable. However, neither of these features were strong drivers for a group of people who are not really interested in using digital payment methods at all. The unbanked/underbanked did not want a digital wallet to be linked to a bank account and would also need considerable convincing that this new digital payment method is safe and secure.

Offliners were more positive about the idea of a new digital payment method. They would want it to be free, easy to use, and linked to their bank account. They were interested in being able to use the wallet to withdraw cash and would want to know whether they would get interest on the money in their wallet. Security was also seen an essential feature.

17 SLOVENIA

17.1 Country context: payment habits

Cash and debit and credit cards were the most common payment methods in Slovenia for everyday transactions. Cash was generally used for smaller purchases and cards for larger ones. However, cash was more popular with those aged 65+, even though the pandemic had led to them to increasingly use cards for their day-to-day shopping in stores. Younger age groups, on the other hand, only used cash if other methods were not available, or in restaurants to leave a tip. Younger age groups used credit cards (directly or via PayPal) for online shopping rather than COD or bank transfers, while those aged 65+ preferred not to use their credit cards online at all.

In Slovenia, regular bills were generally paid via online banking. The pandemic led to an increase in internet use or mobile banking to avoid going in person to the bank or post office to pay bills, and this was the case in all age groups, despite a few older people still paying in person rather than online.

The tech-savvy rarely used cash, relying on cards and mobile payments such as Apple Pay or local smart wallet app Valu-Moneta. They also used credit cards and PayPal for online shopping.

17.2 Perspective of the general population and the tech-savvy

Interest in a new digital payment method such as the digital wallet was highest among those aged 18-40. Those aged 65+ did not think anything would convince them to try a new payment method unless it became absolutely necessary, particularly as they did not trust modern devices like smartphones. Men were more attracted to the idea of a digital wallet than women. Broadly speaking, a new digital wallet would need to be quick and easy to use and very secure.

Acceptance was the key feature for all age groups, and the importance of using the digital wallet not only in Slovenia, but all over Europe, was stressed. However, concerns about conversion rates and bank fees when using the digital wallet abroad would need to be addressed. It would need to be free to use, with no conversion charges.

There was broad appeal among the general public and the tech-savvy for a wallet merging all their existing payment methods into one device, as this would simplify payments and make money management easier. The user should be able to pick the appropriate payment method for each purchasing occasion. The idea of the digital wallet also holding other important documents such as identity cards or passports was also popular with some.

Many said they would consider adopting this new digital wallet if there were additional benefits like discounts, cashback or better conditions for paying by installment.

Person-to-person payments were very appealing to those aged 18-40 and this would be a key driver of adoption for this age group. The tech-savvy already used this feature in other payment options so they would expect it in any new payment method. Those aged 41+ were less interested in person-to-person payments.

Biometric authentication was preferred by those aged 18-40 and the tech-savvy, who would also like the ability to turn off the wallet remotely in case it was lost or stolen. The wallet should allow contactless payment, and many would like the additional security of PIN/TAN code authorisation for purchases. The tech-savvy liked the idea of being able to pay using QR codes. All agreed instant payment would be a requirement for them to consider adopting the digital wallet.

Those aged 18-40 and those aged 65+ preferred a high privacy setting, as privacy is a priority for them. However, the fact that this setting cannot be used online would be a barrier for 18-40-year-olds, while for those aged 65+ the cap of €150 was too low. Those aged 41-64 preferred the medium privacy option. The tech-savvy rated being able to shop online and spend larger amounts as more important than privacy.

Other appealing features of a digital wallet were the ability to view the balance and track spending on the wallet, as well as label and organise expenses. Some suggested receiving monthly reports of spending. Others would like features in the wallet to encourage saving.

Those age 41+ preferred to go to a bank to set their wallet up in person with assistance, while younger age groups preferred an at home set-up.

There was some awareness of the digital euro among the 41-64 age-group, and a few aged 65+ had also heard of it. Among these, it was associated with cryptocurrencies and the gradual abolition of a cash-based euro.

Positive views of a digital euro included combatting the grey economy and improved feeling of safety. However, people disliked what they saw as an increase in government control over the population's money, as well as the information the ECB or central bank would obtain about their financial dealings. There were also concerns about security and being forced to use it. Younger people also worried about who would help the older generations learn to use a digital eur

17.3 Perspective of merchants

The main payment methods offered by merchants in Slovenia were cash and cards for in-store payments, and credit cards, PayPal and bank transfers for online transactions. The most popular methods used by their customers were cards in stores and PayPal for online shopping. Merchants liked PayPal as it was easy for the customer and for them to implement. Credit cards were also popular with merchants as they have low bank fees, and they also give the customer the option to pay by instalments. However, the downside of cards is the time it takes for the merchant to receive payment.

Merchants said the fees associated with their payment methods were easy to understand and are negotiable due to competition between banks, so they were not seen as a major barrier for adopting a new payment method. They were generally satisfied with their payment methods and had no specific suggestions for improvement. Merchants reported positive experiences with the customer support provided by their existing providers.

Merchants in Slovenia recognised a trend towards more digital payments, but they felt card payments would continue to be important for some time yet.

Most merchants had not heard of the digital euro. However, those who had, thought it was being introduced because the banks wanted total control over payments in the euro area. There was concern about the additional control such a method would give central banks, and about the safety and security of a digital euro. If the digital euro were to come with extra costs to them, they would not want to implement it.

Instant payment and risk-freeness were of interest to merchants, but the key drivers for offering a new payment method were still widespread demand from customers and ease of implementation for the merchant.

17.4 Perspective of the unbanked

Offliners used cash or debit cards for everyday shopping, with the choice dictated by personal preference. They paid their bills at a bank branch, or at the post office, also because they enjoy the ritual and social outing of going to pay their bills. They were offline either because they were not interested in learning to use the internet, or because they had tried and were not able to get the hang of it. If they had a smartphone, they would not use apps or its features. Use of credit cards was rare. The underbanked relied on cash for almost all their payments.

Digital payment methods had no appeal for this group, who considered them unsafe payment methods. They also saw no benefit in adopting a digital method when existing payment methods work well for them. They were also concerned about their ability to use a digital wallet.

The underbanked/offliners found it hard to even imagine how such a payment method would work so it is difficult to talk about the features they would want. However, offliners said they would want strict limitations on the spending that could be done with a digital wallet, and a reliable provider, which for them is a bank. None of the underbanked/offliners objected to a digital wallet being linked to a bank account.

None of this group had heard of the digital euro. They could not imagine what it would be like and were not interested in learning more about it.

18 SPAIN

18.1 Country context: payment habits

The most popular payment methods for the general public in Spain were debit cards and cash. As was the case in other countries, the pandemic has led to an increased use of digital methods: for hygienic reasons and because they have become more widely accepted by merchants. Among the digital payment methods employed, the local option Bizum has grown in popularity for day-to-day spending across all age groups, but particularly with those aged 18-64. In fact, Bizum is often the gateway service to people adopting other digital payment methods. Word of mouth was a key driver for people adopting new ways of paying.

PayPal and mobile payment apps were the least used payment methods among the general public, although they were more popular among the under 50s. In contrast, mobile apps were the principal payment method used by the tech-savvy in Spain, both online and in stores. The tech-savvy used both smartphones and smartwatches to pay, and embraced a wide range of options including Bizum, Apple Pay, Google Pay, and banking apps.

Given its popularity, Bizum would be a benchmark digital payment method against which the digital euro would be measured. It was reportedly widely used for person-to-person payments, as it allows contactless payment via smartphone and via QR code – although these aspects were yet to be widely accepted by merchants.

18.2 Perspective of the general public and the tech-savvy

Wide acceptance within Spain and across the euro area would be critical to drive uptake of a new digital payment method, as this is an issue for currently used digital payment methods. It would need to be fast and easy to use, with instant payment and person-to-person payments. A powerful driver would be if the method allowed people to access a variety of payment options through one gateway device, while retaining the features and benefits of those payment methods.

There was the expectation the new digital payment method would allow person-to-person payments. However, since this is already a feature of Bizum, simply offering this would not be enough to drive adoption. The key would be the ability to pay anyone irrespective of the system they are using. Person-to-person payments were more of a priority for those aged 18-40.

Security was important and should be based on biometrics. The general public and the tech-savvy in Spain preferred authorisation to be given before each payment. Privacy was a greater concern for the tech-savvy and those aged 65+, while for the younger age groups being able to go cash-free outweighs possible privacy issues. However, privacy and the idea of the digital euro being risk free were not strong drivers for adopting such a payment method. The idea of a €3,000 limit was considered restrictive by some of those aged 18-40.

In Spain, added value services including cashback and reward points were appealing, as were tools for managing money, savings recommendations and access to discounts or discount cards. Some would like to be able to link certain payments made with their digital wallet, such as donations, to the tax authorities. This would allow certain government benefits to be recorded immediately. The tech-savvy would have liked to have been able to transfer money out of their wallet back to their bank account if they needed to.

The onboarding process for a new digital payment method should be simple and ideally by linking their national identity document (DNI) with a phone and photo or password connected to an email address.

The tech-savvy in Spain were early adopters of new payment methods and proactively looking for new options, which is unusual in the euro area. Some tech-savvy would possibly be motivated by this alone to try a digital euro, with the added advantage that the issuer would be well known and trusted, as is the case with the central bank and the ECB.

There was little awareness of the digital euro among the general public and the tech-savvy, and almost no knowledge about what it would be and how it would work. It was spontaneously associated with cryptocurrencies, prepaid cards, and as a replacement for cash. The idea of a digital euro was considered complex by all age groups, but particularly by those aged 65+. Most did not understand the difference or benefit compared to existing payment methods.

When the concept was explained further, most in Spain thought the digital euro was a means for the ECB to gradually eliminate cash. This raised fears of increased government control and the marginalisation of older or less technologically literate sections of the population. For some, however, a positive aspect was that a digital euro would assist in combating fraud and money laundering, as well as resulting in greater stability and regulation in comparison to other cryptocurrencies because it would be managed by the ECB.

18.3 Perspective of merchants

Merchants in Spain offered a wide variety of payment methods to attract and keep customers: cash, cards and mobile payments. Interestingly, although Bizum was extremely popular with the general public and the tech-savvy, it was only mentioned by one merchant. Pain points for merchants with their current methods were fees and charges they considered unreasonable, as well as poor customer service from payment providers. Like their counterparts in other countries, merchants in Spain had noticed a significant drop in the use of cash since the start of the COVID-19 pandemic.

No merchants had heard of a digital euro. They viewed it as a way of eliminating cash and pursuing fraud. Although they thought digitalisation was unstoppable, they were concerned about excessive tax controls and fees.

Merchants in Spain were open to offering new payment methods if customers required change. Key drivers for adopting new methods would be widespread demand, instant payments and a flexible process. The main barriers would be fees and charges, the need for new equipment, and the time needed to learn a new system. In the case of Bizum, for example, the need to have a mobile phone associated with the company account was mentioned as a barrier for offering this service. Merchants viewed payment via mobile as a simple adaptation of card use (as both use the same POS equipment and payment process), so a digital euro that could be spent via a smartphone would remove one barrier to adoption.

Instant payment would be a key driver to encouraging uptake among merchants, as it would assist in the financial management of their business. Risk-freeness would also give confidence, especially in the early stages of a rollout. However, a critical situation would occur if high consumer demand for this new payment method were not accompanied by lower fees compared to the existing options. In the merchants' view, the latter would be necessary to balance out the effort made to implement and learn the new payment system.

18.4 Perspective of the unbanked

The unbanked/underbanked/offliners in Spain were middle aged or older, with a low level of technological knowledge. They had a negative attitude towards banks generally, disliking the fact that that they charged for everything and had aggressive commercial policies. This group trusted cash and direct debits for paying bills, and they were sceptical about other payment methods, even debit cards. They preferred to spend cash as it gave them greater spending control, and they were never surprised by large bills. The internet users in the group did not make any transactions online, and some only had simple phones.

None of the unbanked/underbanked/offliners had heard of the digital euro.

They were not enthusiastic about a digital wallet but were somewhat resigned to increasing digitalisation. Simplicity was key. A digital euro would have to be easy to use, secure and free. They wanted a device in a familiar format like a card, and they did not want it to offer credit, or to be linked to a bank account. The idea of making payments without the internet was very appealing.

19 THE NETHERLANDS

19.1 Country context: payment habits

The Netherlands was a relatively mature market from a payment perspective, with a greater reliance on digital methods. Debit cards, particularly contactless, were the most common method for everyday purchases, but a wide range of payment methods were used, depending on the occasion. Cash was used to pay for small everyday items, as well as in restaurants or parking machines. Payment by phone (e.g. Apple Pay) was also used, but was slightly more common in the 18-40 age group. Ideal and PayPal were used for small online purchases, credit cards for larger purchases, and local payment app Tikkie was used to pay friends or on websites like Marktplaats. The payment habits of the general public and the tech-savvy were similar, although the tech-savvy did rely more on paying with their mobile phone.

Recently, some had started to use more digital payment methods such as Klarna, Afterpay and Tikkie: either for convenience, or to try them. Some had also started using Tikkie on the recommendation of friends or family.

19.2 Perspective of the general public and the tech-savvy

In the Netherlands, satisfaction with existing payment methods was high and only a few were currently open to adopting a new one: mostly those aged 65+. Most of the general public and the tech-savvy were not enthusiastic about the idea of a digital wallet. They saw insufficient added value in it compared to their existing (mostly digital) payment methods. Although some of the proposed features were more attractive than others, it would probably take multiple features to make the digital wallet compelling in this market.

The most compelling feature of the digital wallet for those in the Netherlands would be if it were to be accepted everywhere across Europe. This would allow people to have just one payment option and would simplify their lives considerably. Acceptance everywhere would offer a new level of convenience and would remove the need to carry cash. There were occasional situations where only cash is accepted, although these were more likely encountered by those aged 41+.

The new wallet would have to be safe and secure to use and should allow individual choice when it comes to privacy levels. Biometric authentication, particularly by facial recognition, was preferred. The most popular choice for the wallet was a smartphone or smartwatch, but some mentioned everyday items like jewellery or glasses, or implanting a chip in their body. The tech-savvy, in particular, were attracted to options that would allow them to no longer carry a wallet or cards at all.

Person-to-person payments were appealing for some, as their debit card cannot do this, but for those who used Tikkie and other methods this was already possible. Therefore, these on their own would not represent a powerful driver to change.

Financial management features, including making it easy to see the balance and what has been spent, labelling and organising expenses and notifying when a certain payment level has been reached, were all appealing and should be included to help drive uptake.

There was a strong preference in the Netherlands for using the same payment methods as friends and family.

The risk-freeness of €3,000 was not compelling given that they felt they could have €100,000 risk free in their bank: the difference between commercial and central bank money was not well understood. However, the concept of risk-freeness and the association with the ECB was more valuable to those aged 65+. Those under 65 had the same level of trust in the ECB and their commercial bank but they did not see much difference between the guarantee at a commercial bank and the guarantee of the central bank.

Most thought a limit of €3,000 was very high for a digital wallet, particularly as they viewed it as a cash replacement.

In the Netherlands, only a few had heard anything about the digital euro, but they had no real knowledge as to what it was. There was little difference between the general public and the tech-savvy, with the digital euro being spontaneously associated with digital currency, Bitcoin and other cryptocurrencies. The idea of the digital euro was difficult to understand as they were unable to see how it would be useful or different from the cashless euros they already spent digitally or held in their bank.

However, there were some positive aspects of the digital euro. The general public liked the idea that the digital euro would make it possible to pay contactless everywhere in Europe and that they would be able to use it for regular payments. However, others distrusted the safety and reliability of the digital euro, and some also distrusted the government and the EU in general and did not like the increasing digitisation of their lives.

19.3 Perspective of merchants

Driven by the needs of their customers, merchants in the Netherlands used a variety of mostly digital payment methods:

mobile pin, Mollie, Klarna, PayPal, Tikkie, Ideal, debit card, cash, on account and credit card. Merchants made little distinction between the different digital methods. In fact, digital methods of payment were preferred over cash. Although they attracted costs, merchants thought the fees were clear and acceptable, and they simply included them in the cost to the customer. If a payment method encourages customers to buy more, they did not mind if there were higher costs involved.

Merchants generally had no complaints about their existing payment methods, finding them easy to use for themselves and their customers. However, in terms of improvements, they would like worldwide instant banking, faster crediting of large payments, lower fees, and better protection for merchants from PayPal.

Merchants adopted a new payment method if customers asked for it, or if they became aware of something suitable through word of mouth or wider publicity. However, they were not actively looking for new methods and were satisfied with the options that are currently available. Anything new would need to be very appealing to make them adopt it.

Payment security, reliability of provider and customer service, payment speed, and global acceptance were important features of a payment service, although it varied by merchant.

The idea of instant payment would not on its own represent a compelling reason to adopt a new payment method. Merchants liked payments to be arranged quickly but did not consider it as a necessary condition for a payment to be immediately credited to their account. Nor was the idea of it being risk-free a reason, as they felt the existing banking guarantees were sufficient.

None had heard of the digital euro, and they were not positive about the idea, particularly as they felt it was being developed for the benefit of the government rather than for them. Merchants thought they would eventually accept the digital euro if it were established as legal tender, and if customers were to demand it. However, they would still need a lot more information first.

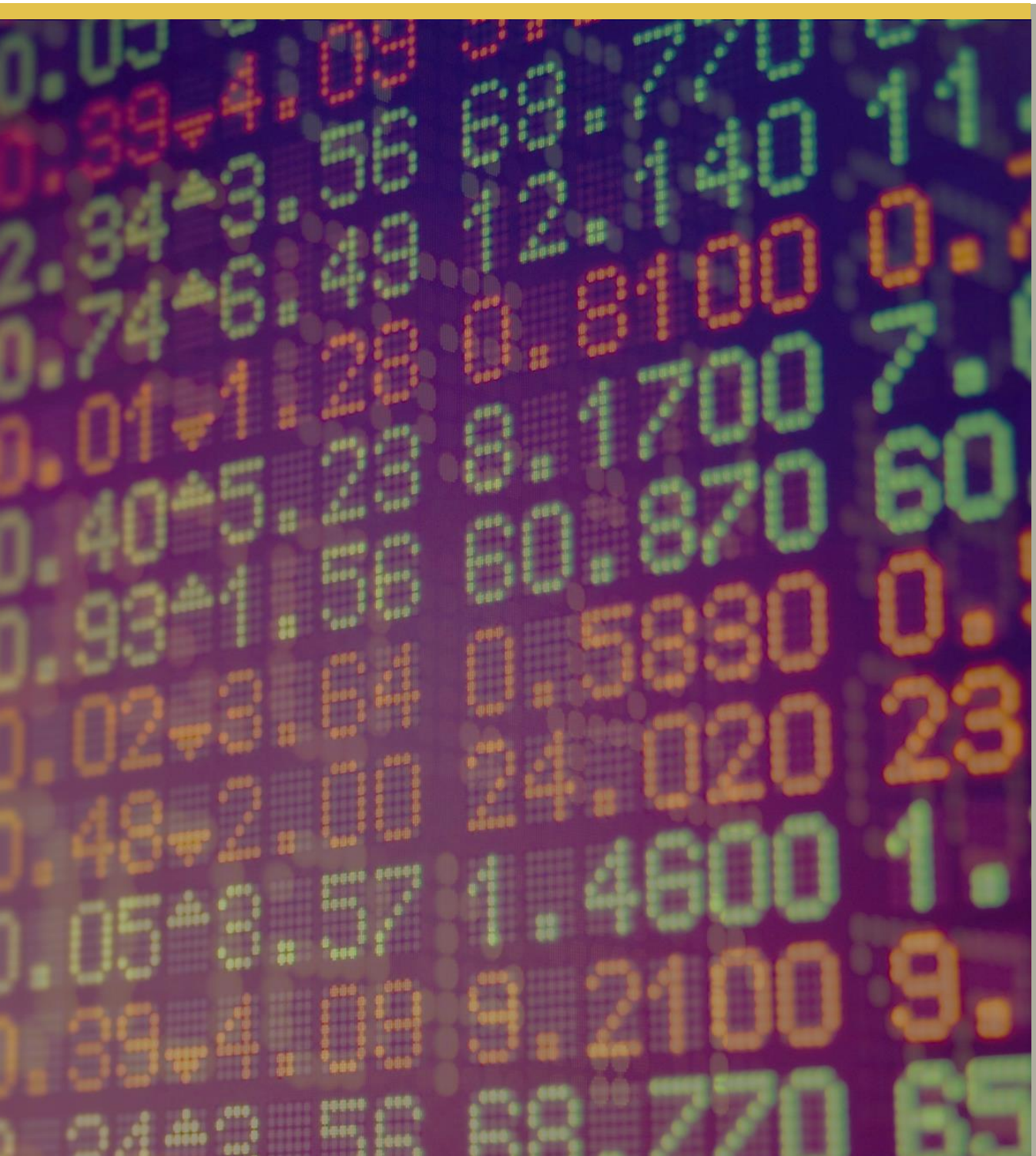
19.4 Perspective of the unbanked

It is very difficult to live and function in the Netherlands without a bank account, so this group predominantly comprised the underbanked/offline. The main reasons for being underbanked was the people in question did not use the internet, or they had tried digital payment methods but found them too difficult. There were also concerns about privacy with digital transactions of any kind. The underbanked/offliners preferred cash as it was easy to use and gave them a greater sense of financial control. Some also used debit cards and automatic payments for bills, although debit cards were predominantly used to withdraw cash.

The unbanked/offliners were at best indifferent to adopting a new payment method. They felt no need to adopt it, but if they had to, they would want at least all the same options they have now. That would mean being able to pay cash, withdraw money with a card, make automatic payments, and have a monthly overview (via post or the app). The new method would need to be safe and secure. They preferred a local bank to be the provider, and the idea of being able to use a digital wallet without the internet was appealing. The underbanked/offliners preferred personal assistance or assistance from relatives when they set up a new method.

None had heard of the digital euro.

ANNEX II: PARTICIPANTS BREAKDOWN PER COUNTRY, PER METHODOLOGY



Country	Online community	Focus group general population	Focus group merchants	Focus group tech-savvy
Austria	113	18-40: 10 41-64: 10 65+: 9	10	9
Belgium (fr)	50	18-40: 5 41-64: 5 65+: 5	3	5
Belgium (nl)	48	18-40: 5 41-64: 5 65+: 5	5	5
Cyprus	87	18-40: 7 41-64: 7 65+: 7	6	6
Estonia	144	18-40: 7 41-64: 7 65+: 6	5	7
Finland	96	18-40: 6 41-64: 6 65+: 5	6	6
France	96	18-40: 8 41-64: 8 65+: 8	8	8
Germany	101	18-40: 8 41-64: 8 65+: 9	10	11
Greece	93	18-40: 6 41-64: 6 65+: 6	6	6
Ireland	91	18-40: 9 41-64: 8 65+: 8	8	8

Italy	102	18-40: 8 41-64: 8 65+: 8	8	7
Latvia	98	18-40: 5 41-64: 5 65+: 4	5	5
Lithuania	89	18-40: 6 41-64: 6 65+: 6	6	6
Luxembourg	49	18-40: 4 41-64: 5 65+: 4	6	4
Malta	92	18-40: 7 41-64: 10 65+: 7	10	10
Portugal	112	18-40: 12 41-64: 13 65+: 11	12	11
Slovakia	92	18-40: 8 41-64: 8 65+: 8	8	8
Slovenia	148	18-40: 7 41-64: 10 65+: 10	7	9
Spain	98	18-40: 6 41-64: 6 65+: 6	5	5
The Netherlands	99	18-40: 6 41-64: 6 65+: 6	4	6