DEUTSCHE BUNDESBANK
EUROSYSTEM

Payment behaviour in Germany in 2021

Last updated: July 2022

Inhalt

1 Summary

This study explores payment behaviour in Germany in 2021. Since 2008, the Bundesbank has been looking in depth at how the public pays, peoples' attitudes towards cash and electronic means of payment, and what developments we can expect in the payments space. The aim of the series of studies is to provide objective and scientifically backed information on payment behaviour for policymakers, the economy and society. For the Bundesbank, the survey is an important foundation for fulfilling its mandate with regard to cash and cashless payments. The key findings of the 2021 study are listed below:

- **Cash** is still the most frequently used means of payment in Germany: 58% of all day-to-day payments are made in cash. Looked at in terms of turnover, cash accounts for 30%. The proportion of cash payments fell sharply between 2017 and 2020. This trend had accelerated in 2020 owing to the coronavirus pandemic, but eased again somewhat in 2021. Reasons for the reduced use of cash are the growth in online purchases and the increasing utilisation of contactless debit or credit cards, triggered in many cases by stores calling on consumers to opt for contactless payment methods for hygienic reasons.

- Although the proportion of **cash** payments has dropped, it remains an important component of many people's payment portfolios: on average, consumers in Germany have €100 in their wallet and keep much higher amounts as reserve at home. Morevoer, the vast majority consider the ability to use cash in the future to be important (69%). It remains the generally preferred means of payment for nearly one-third of respondents.

- Four out of ten respondents though now say that, given a choice, they have a preference for **card payments or other cashless means of payments.** This is reflected in actual usage.

- **Debit cards** (in Germany mainly the "girocard") are still the second most common means of payment. While their share of transactions has risen to 23% since 2017, their proportion of turnover fell slightly to 30% over the same period. One of the factors contributing to this opposing dynamic has been the trend towards internet shopping, as girocards have so far not been enabled for online payments. Second, debit cards have also been used

more frequently for smaller amounts since the pandemic started. This development was predominantly driven by contactless payments, which account for two-thirds of all debit card payments.

- **Credit cards** have also become more prevalent in the payments mix. Compared with 2017, their share of payments rose to 6%. Since credit cards are primarily used to pay for large amounts, their share in terms of turnover amounts to 10%, double the figure in 2017.

- **Online shopping** has continued to grow as a result of the coronavirus pandemic, and this has led to a marked shift in the expenditure structure. Correspondingly, 5% of all transactions in the payments diary were settled using **e-payment methods**. Their share in terms of turnover has doubled to 8% since 2017. In addition, according to the information provided in the questionnaire, almost one-fifth of respondents use subscription models (e.g. streaming services or regular deliveries) more frequently than before the coronavirus pandemic. This was the first time that specific e-payment methods were recorded individually in the payments diary. At 84%, PayPal accounts for the majority of transactions, followed by Klarna at 8% and giropay/paydirekt at 4%.

- Familiarity with **mobile payments** continues to grow. For example, 17% of respondents who own a smartphone have already used it to pay at the point of sale. In addition, around 27% of those who own a fitness wristband or smartwatch with a payment function have used it as a payment tool. Apple Pay is the most popular method at the point of sale. It is the usual method of choice for 38% of those who use mobile payment options, followed by bank or savings bank payment apps (25%) and Google Pay (18%). Nevertheless, mobile payment methods are not yet widely used. At 3%, their share in the value and number of transactions in retail outlets remains low.

- The payments space continues to evolve dynamically. Just over three-quarters of the population now has access to **instant credit transfers.** Around one-third can use this service free of charge. Almost the same number of respondents did not provide any information on pricing. Instant credit transfers could also form the basis for a **new European payment method**. According to respondents, a payment method of this kind should be offered first and foremost by banks and savings banks, followed by the Bundesbank or the European Central Bank.

- As with e-payments and mobile payments, large **tech firms** are gradually trying to gain a foothold in other parts of the financial sector. However, when it comes to sensitive areas such as account management, 95% cannot see themselves holding a payment account with a firm of that kind. When asked which institution handles personal **payment data** responsibly, 92% of respondents trust their own house bank or savings bank. Confidence in major tech firms and in start-ups/fintech firms is low: only 15% and 13% of respondents, respectively, **trust** these companies when it comes to data protection.

- In spite of huge public interest, only 4% of respondents have purchased crypto tokens so far, while another 4% plan to buy them in the near future. That is an increase of one percentage point in each case compared with 2020. Of those who have purchased crypto tokens, 85% consider them an investment and only 8% see them primarily as a means of payment.

5,870 telephone respondents in Germany answered more than 50 questions on payment behaviour in general.

Of these, 4,197 went on to keep a 3-day payments diary, reporting back online or by telephone.

The results were subsequently weighted to ensure that they are representative of the German-speaking population aged 18 and above.

2 Study design

The Bundesbank has been conducting **detailed studies on payment behaviour** in Germany for more than ten years now.[1] The data for 2008, 2011, 2014 and 2017 were gathered by means of computer-assisted personal interviews (CAPIs). Due to the coronavirus pandemic,[2] 2020 saw the Bundesbank conduct an interim study on a reduced scale. Owing to the social distancing measures introduced to combat the pandemic, however, there were no in-person interviews: half were conducted over the phone (computer-assisted telephone interview, CATI) and half were conducted online. The present study joins the ranks of the detailed studies conducted up to the 2017 edition. However, the ongoing pandemic situation again meant that no CAPI survey could be realised in 2021. Instead, the study was conducted as a **CATI survey.**

The sample population is German-speaking persons aged 18 and above in the Federal Republic of Germany. Over the period from 8 September to 5 December, the market research institute forsa, commissioned by the Bundesbank, conducted a total of 5,870 telephone interviews. **Respondents were selected** by applying a random sample approach using multivariate stratification based on the ADM sampling system for telephone surveys[3] (dual frame approach) and birthday method.[4] Different selection probabilities stemming from the dual-frame approach were offset through design weighting. The sample then underwent structural weighting, adjusting it to align with official statistics in terms of age, gender, level of education and place of residence of the respondents. The random selection and subsequent weighting mean that the study is **representative of the German-speaking population aged 18 and above in the Federal Republic of Germany**. All analyses are based on the weighted data.

1 For more information on the series of studies, see https://www.bundesbank.de/en/publications/reports/studies/payment-behaviour-in-germany-738024. Last accessed on 22 June 2022.

2 For a timeline of government measures, see https://www.bundesgesundheitsministerium.de/coronavirus/chronik-coronavirus.html. Last accessed on 22 June 2022.

3 As there is no complete list of private telephone numbers in the Federal Republic of Germany, participating survey institutions can use the ADM sampling system for telephone surveys. This makes it possible to draw, in principle, on all usable landline telephone numbers in Germany for survey activities. In addition, the dual-frame approach means that it is possible to include those who are only reachable via mobile telephone, too. Source: Arbeitsgemeinschaft ADM-Stichproben: https://www.adm-ev.de/leistungen/arbeitsgemeinschaft-adm-stichproben/. Last accessed on 22 June 2022.

4 Using the birthday method means that the household member who most recently had their birthday is selected to participate.

The **questionnaire** consisted of two sections: a general section that all respondents received and some more in-depth questions for which the participants were randomly split into two groups, A and B. Subgroup A received mainly questions on the subject of cash, subgroup B had questions focusing on electronic payment methods. Following the interviews, respondents were asked to record their day-to-day payment transactions, including location and means of payment, over a period of three days. Participants could either record their expenditure themselves in an online diary or, if this was not possible, convey the information by telephone. To ensure that all days throughout the week were covered as evenly as possible, respondents were randomly assigned three consecutive reporting days on which to record their transactions.

The study is designed to measure relative preferences for different means of payment from the consumer perspective. Given this objective, the focus is on payment situations in which an individual actively decides to use one means of payment over another. The **diaries** therefore document actively initiated one-off payments, such as a cash payment when shopping at the supermarket, a mobile payment via app at the petrol station, the use of a payment card at a restaurant or a direct debit when buying something online. In addition to transactions at traditional shopping venues, the survey also captures payments made to individuals, at vending and ticketing machines, to charitable causes or to offices of public authorities. In all these transactions, the respondents make a fresh decision each time as to which means of payment they are going to use. By contrast, regular recurring payments, such as transfers of rent or when respondents' electricity or gas bills are debited from their bank accounts, are not covered by the diaries. These payments are generally set up on a longer-term basis as a credit transfer or direct debit and so, methodologically speaking, do not fit the scope of the present study – with its focus on the choice of means of payment for individual transactions. They are therefore disregarded for the purposes of ascertaining the population's **payment preferences**.[5]

In order to provide a good overview of payment behaviour in Germany in 2021, the results of the study are presented as follows. In the main body of the text, you will find **summary graphics** on the left-hand side displaying participant responses. Selected breakdowns of re-

5 Information on regular payments was collected in the survey by means of a separate questionnaire, which is not analysed in the present report.

sponses by socio-demographic characteristics, such as age, income and gender, can be found in the Annex, collated by their respective chapters. The numbering system has been reworked since the previous studies. The figure and table numbers are preceded by the relevant chapter number. The figures in the Annex are numbered with a preceding letter "A". In the figures, the weighted number of those who answered that particular question is given as "n = number".

Cash carried in wallets

Tab. 3.1.1

As recorded in payments diary

	2011	2014	2017	2021
Average amount of cash in wallet (€)	103	103	107	100
Average value of coins in wallet (€)	6	6	6	6
No cash in wallet (%)	2	1	2	4

Basis: All respondents with a payments diary.
Question: What euro coins and euro banknotes did you have in your wallet/on your person at the beginning of the day?
Note: Respondents without cash holdings are included in the calculation of average amounts with a value of 0.
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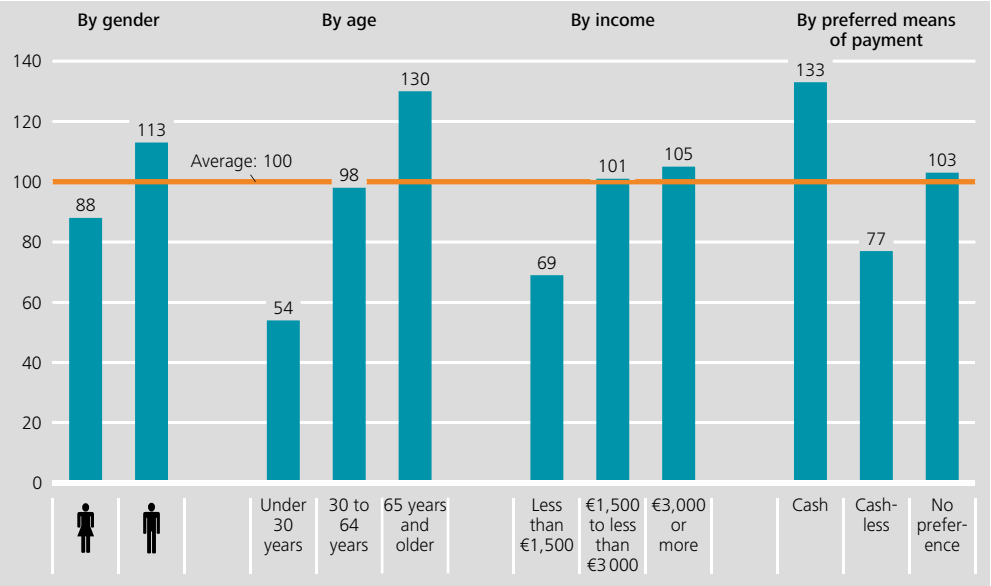
Cash carried in wallets

Fig. 3.1.1

€, as recorded in payments diary



Basis: All respondents with a payments diary (n=4,197). Question: What euro coins and euro banknotes did you have in your wallet/on your person at the beginning of the day? Note: Respondents without cash holdings are included in the calculation of average amounts with a value of 0.
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3 Access to and attitudes towards cash

3.1 Cash holdings

In the payments diary, respondents state whether they have **cash in their wallet** and, if so, how much. The figure averages out at approximately €100 for 2021, with around €6 of that in coins. Only 4% of respondents do not hold any cash at all (see Table 3.1.1). This means that there has been little change in cash holdings over the past ten years.

The amount of cash that respondents have in their wallet varies. On average, men, older persons and those with high incomes carry more cash than the respective comparison groups in each case. People who prefer to pay in cash have an above-average amount of cash in their wallets. That said, respondents who prefer to use cashless payment options also carry an average of €77 (see Figure 3.1.1).

Wallets are not the only place where cash is stored. 44% of respondents report that they regularly set aside cash at home as soon as they have withdrawn it. 36% report also keeping cash as a **precautionary reserve** or **way of saving**, amongst other things. When asked about the size of these additional amounts, participants report an average of €463. However, we must assume that participants will have exercised a degree of restraint when answering this sensitive question; as a result this figure can only be interpreted as a lower bound for the actual reserves that are being held.[6]

3.2 Making cash withdrawals

In the telephone interviews, respondents provided information on their sources of cash. Specifically, they were asked how often they normally make withdrawals from automated teller machines (ATMs), bank counters and at the point of sale and what amounts they take out when they do so. As in previous years, almost all respondents use ATMs as a source of

6 In 2017, the Bundesbank conducted a separate survey on the storage of cash in German households. Deliberate strategies were used to increase respondents' trust and willingness to answer this sensitive question. Back then, respondents to that survey reported additional cash reserves of an average of €1,364, i.e. considerably higher than in the present study. See Deutsche Bundesbank (2020), Cash use in Germany: Cash hoarding by German households – an empirical analysis of how much cash they store and why.

Cash withdrawal behaviour by place of withdrawal

Tab. 3.2.1

As reported by respondents

	2011	2014	2017	2021
Percentage of users				
ATM	89	93	95	96
Bank counter	46	39	38	20
Point of sale	8	12	23	34
Withdrawals per year by users				
ATM	39	43	42	30
Bank counter	13	12	10	13
Point of sale	10	12	8	15
Average amount withdrawn by users, €				
ATM	216	180	189	230
Bank counter	449	354	447	736
Point of sale	107	87	87	94
Amount left before next withdrawal, €				
	36	32	34	40

Basis: Respondents with access to a current account in subgroup A (n=2,919).
Questions: How often do you withdraw cash at an ATM/a bank counter/a point of sale? How much cash do you withdraw on average at an ATM/a bank counter/a point of sale? When you decide to withdraw more cash, how much do you usually still have in your wallet?

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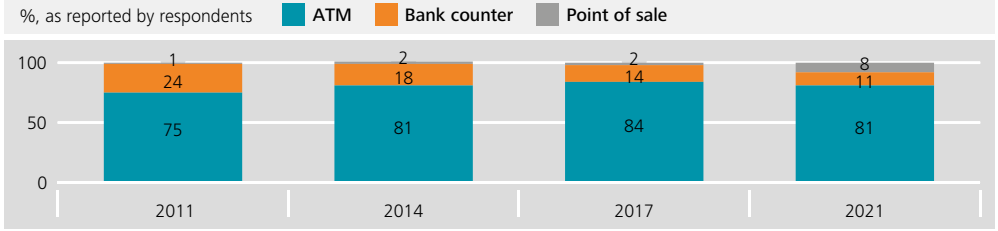
Different withdrawal sources as a percentage of total annual withdrawals

Fig. 3.2.1



Basis: Respondents with access to a current account in subgroup A (n=2,919). Questions: How often do you withdraw cash at ATMs/ at bank counters/at a point of sale? How much cash do you withdraw on average at an ATM/at a bank counter/at a point of sale?

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cash (96%) (see Table 3.2.1). 20% still withdraw cash at the bank counter, although the proportion of people doing this has been declining for some years now. By contrast, more and more people are making withdrawals at the point of sale – 34% at present.

There have been significant changes when it comes to the **frequency and size of withdrawals** by source (see Table 3.2.1). ATM users make far fewer trips than in 2017, according to the 2021 study (30 times a year, down 12), but withdraw higher amounts at a time (€230, up €41). In turn, withdrawals at the point of sale are used more frequently by those that source cash in that way than in previous years (15 times a year, up 7) and the amount withdrawn is also higher (€94, up €7). The reduced mobility brought about by the pandemic is thus also mirrored in withdrawal behaviour: some of the withdrawals previously carried out separately at the ATM are rolled into one or combined with a shopping trip to the supermarket. As for bank counters, where withdrawal activity now tends to be concentrated on large, one-off withdrawals, users visited them slightly more often again in 2021 (13 times a year, up 3) and the average amounts withdrawn also rose (€736, up €289). Respondents are also deciding to stock up with cash much earlier. The **amount of cash remaining** before next withdrawal rose to €40 in 2021 (see Table 3.2.1). The higher amounts withdrawn and remaining before the next withdrawal suggest that cash was stockpiled during the pandemic.

Using the details on frequency and size of withdrawals given by the individual respondents, it is possible to calculate an average annual withdrawal amount: extrapolated to one year, respondents' **cash withdrawals** average €6,657 in 2021, which is around 10% less than in 2017 (€7,374).[7] 81% of the amounts come from ATMs, 11% from bank counters and 8% from withdrawals at the point of sale. The proportion of withdrawals at the point of sale has quadrupled since 2017 (see Figure 3.2.1).

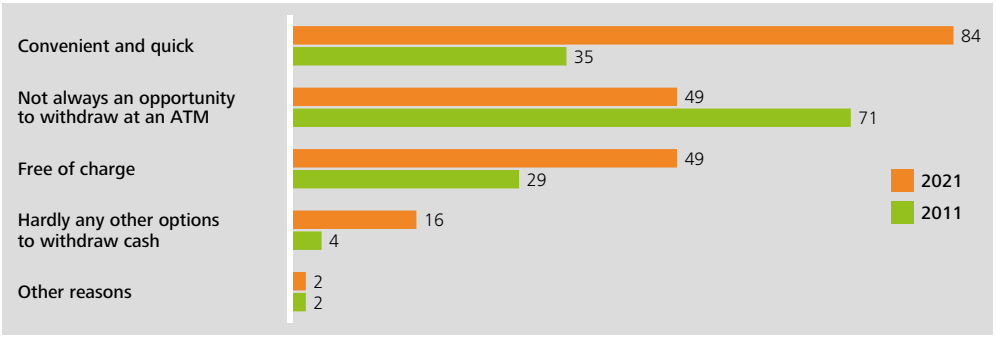
A growing number of respondents are choosing the option of **withdrawal at a point of sale** (2021: 34%, up 11 percentage points). Use is somewhat higher among women, at 38%. Furthermore, there is a significant bunching in the 35 to 44 age range, with 53% using this

7 To calculate the average annual withdrawal amount, the product of withdrawal frequency and the average withdrawal amount for each individual respondent is calculated. These individual annual withdrawal amounts are then averaged across all respondents, taking into account the weighting. It is not possible to calculate the average annual withdrawal amount as a product of the average number of withdrawals per year and the average amount withdrawn from Table 3.2.1, as the mean of a product of tw o factors is not the same as the product of the mean values of those two factors. $(\frac{1}{n}\sum_{n}^{i=1} x_i\, y_i \neq \frac{1}{n}\sum_{n}^{i=1} x_i \times \frac{1}{n}\sum_{n}^{i=1} y_i)$

Reasons for withdrawing cash at the point of sale

Fig. 3.2.2

%, as reported by respondents, multiple responses possible



Basis: Respondents using point-of-sale withdrawals in subgroup A (n=995). Question: Why do you use the option of withdrawing cash at a supermarket, drug store or petrol station?

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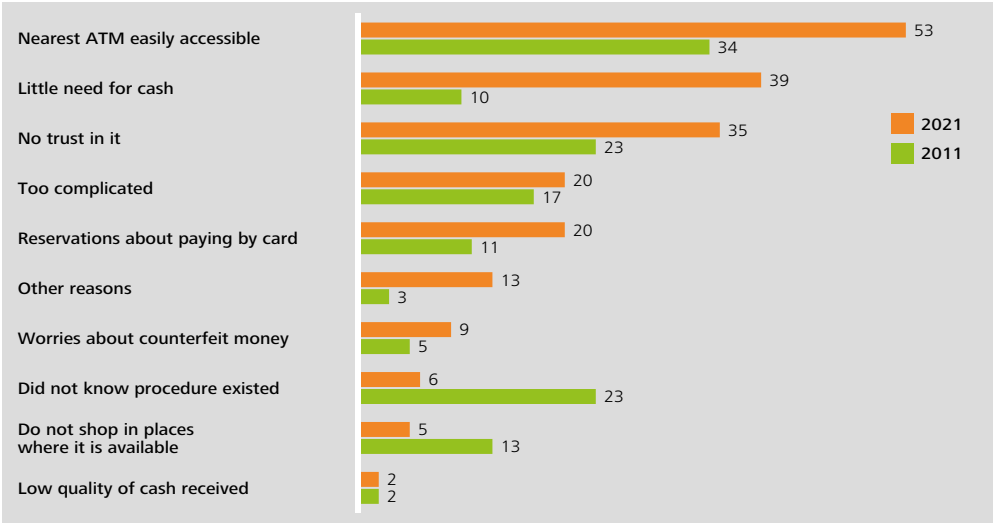
Reasons for not withdrawing cash at the point of sale

Fig. 3.2.3

%, as reported by respondents, multiple responses possible



Basis: Respondents who do not use point-of-sale withdrawals in subgroup A (n=1,923). Question: Why do you not use the option of withdrawing cash at a supermarket, drug store or petrol station?

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method. One possible explanation is the interplay between frequent shopping trips to the supermarket, time constraints and an overall higher level of expenditure during this period of life (see Figure A.3.2.1 in the Annex).

Figure 3.2.2 shows the **key reasons for withdrawing cash at a point of sale** according to users. Ten years ago, the shop till functioned as more of an emergency solution if there was no opportunity to withdraw at an ATM (71%). Now, the main reasons are the advantages of the procedure itself, in particular the fact that it is convenient and quick and can be used free of charge (84% and 49% respectively). That said, a fairly large proportion of the users also reported that they have hardly any other options to withdraw cash (16%). This might temporarily be due to people going less far afield than normal as a result of pandemic measures. The increased use of purely online banks that do not have their own ATM network could be another factor.

Some of the **reasons for not making withdrawals at a point of sale** have also changed (see Figure 3.2.3). In 2011, many respondents were not yet aware of the procedure's existence. In 2021, this is only the case for 6% of those who do not make use of it. The main reason for not withdrawing cash at the point of sale is still that the nearest ATM is easy to get to (53%). What is new is that many respondents now need less cash (39%). A lack of faith in the procedure also plays a bigger role (35%). By contrast, only a few respondents are still reporting that they only shop in places where it is not possible to make withdrawals at the point of sale (5%).

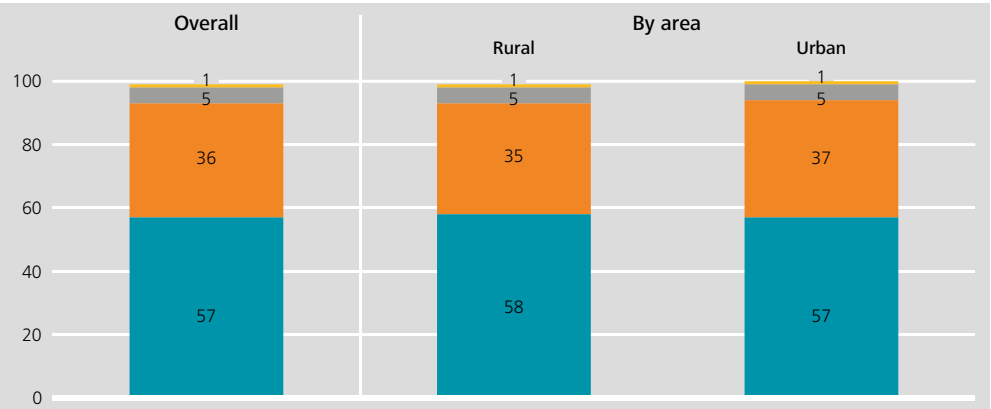
Although withdrawals at the point of sale are now more common, the vast majority of respondents also feel that they are still **well supplied with cash** by commercial banks. Overall, 93% find it fairly easy or even very easy to get to an ATM (see Figure 3.2.4). This view is shared by respondents from both urban and rural areas. At present, they consider the state of cash provision in Germany to be good.

3.3 Attitudes towards cash

Cash is still very popular amongst a large section of the population. It is the preferred means of payment for 30%. This share has remained virtually unchanged since 2017. The popularity of cash is above average among respondents aged 55 and above and those who assess their financial situation as rather bad (see Figure 3.3.1).

Access to ATMs and bank counters

Fig. 3.2.4



Basis: Respondents with access to a current account (n=5,826). Question: When you want to withdraw cash at an ATM or the bank, how easy or difficult do you usually find it to get there?

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Preferred method of payment is cash

Fig. 3.3.1

Basis: All respondents (n=5,870). Question: If you were offered a choice of payment methods in a shop, what would be your preference?

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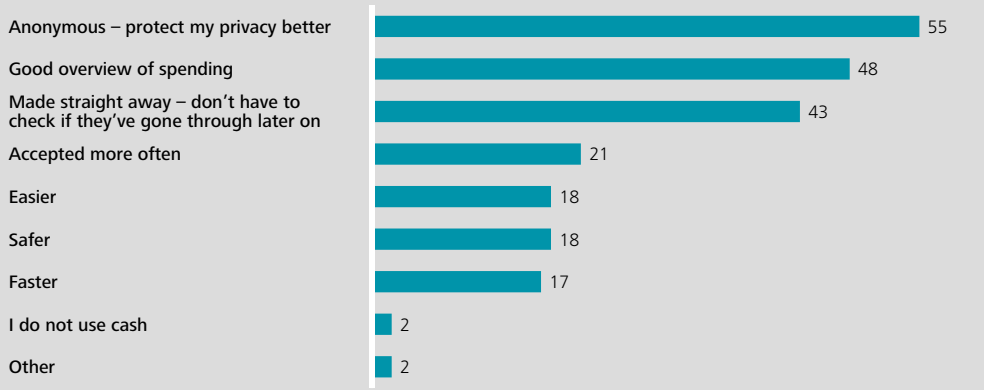
When asked about the **most significant benefits of cash payments** over card payments, 55% of respondents cite the anonymity of the payment process, which protects privacy and personal data. In addition, almost half of the respondents find that cash provides a better overview of spending (48%) and 43% see a major advantage in the fact that payment is settled directly with no need to check afterwards that the payment has gone through (see Figure 3.3.2).

There are, in some cases, differences among the population in how the aforementioned benefits of cash are seen. For example, privacy protection is often cited by younger persons, men and high earners. By contrast, a good overview of spending and the reliable settlement of payment by cash play an important role primarily for women and respondents who themselves assess their financial situation as bad.

Benefits of cash payments over card payments

Fig. 3.3.2

%, as reported by respondents, multiple answers possible



Basis: All respondents (n=5,870). Question: In your opinion, what are the most significant benefits of cash payments compared with card payments? A maximum of three responses is possible.

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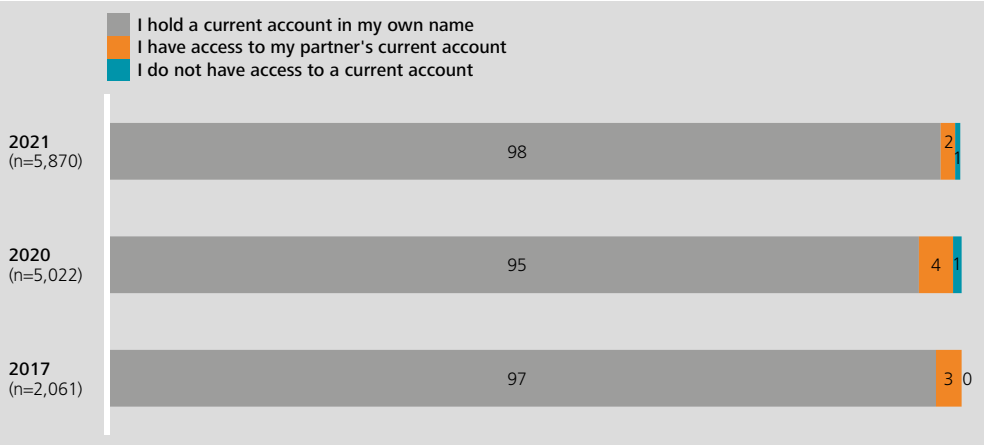
Current account ownership

Fig. 4.1.1

%, as reported by respondents



Basis: All respondents. May fail to sum to 100 due to rounding. Question: Do you hold one or more current accounts?

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4 Access to and attitudes towards cashless means of payment

4.1 Current account ownership and online banking

Current accounts are the basis for participating in cashless payments (credit transfers, direct debits and card payments) and allow cash to be deposited and withdrawn. The share of citizens holding a current account in their own name has risen continuously – from a high level – since the start of the studies on payment behaviour. It stands at 98% for the current observation period. A further 2% have shared access to their partner's current account (see Figure 4.1.1). The share of those with their own current account has thus increased by three percentage points compared with the 2020 survey and is slightly above the 2017 figure (97%). This means that, **overall, there is a high degree of financial inclusion and access to financial services** in Germany. Respondents who assess their current financial situation as bad are an exception; 7% do not have access to a current account (see Figure A.4.1.1).

The **breakdown by group of institutions** in Figure 4.1.2 shows that almost half of respondents (46%) have a current account with a savings bank, followed by the cooperative banks (26%), Cash Group[8] banks (18%), direct banks[9] (14%) and CashPool banks[10] (9%).

Compared with previous years, the share of current accounts with savings banks has declined overall (by five percentage points since 2017), while the share of those held with cooperative banks has increased (by six percentage points since 2017). The largest post-2017 growth, at 11 percentage points, has been recorded by direct banks. As, unlike in previous studies, the present study did not ask about the principal banking relationship but instead allowed for multiple responses, the results are not completely comparable, but nevertheless show a distinct trend.[11]

8 Commerzbank, Deutsche Bank, HypoVereinsbank (HVB) and Postbank.

9 Comdirect Bank, Deutsche Kreditbank (DKB) and ING-DiBa.

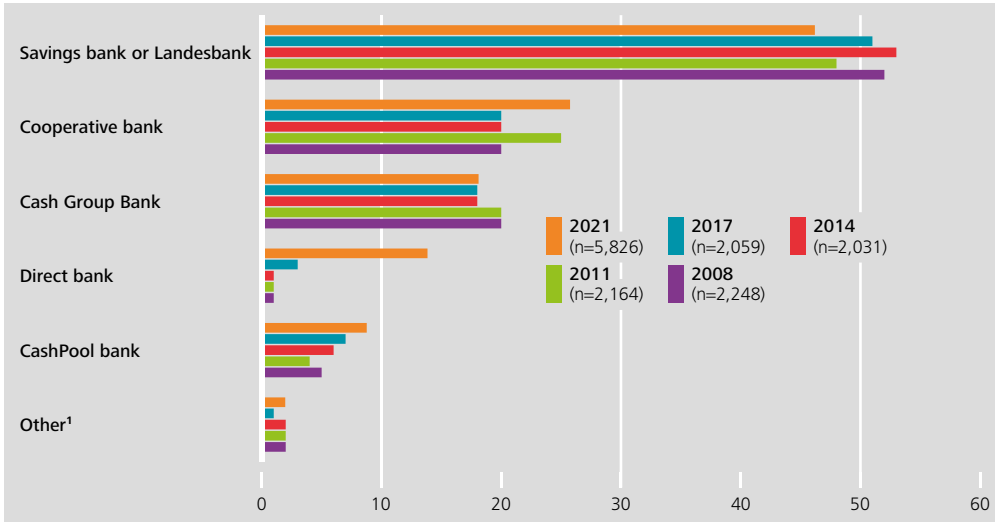
10 Santander-Bank, Sparda-Bank and Targobank (formerly Citibank). None of the other CashPool banks were mentioned by respondents.

11 In 2008-2017, participants reported their principal banking relationship (single response). The question was not asked in 2020. The 2021 iteration asked where current account(s) are held (multiple responses possible).

Distribution of current accounts by group of institutions

Fig. 4.1.2

%, as reported by respondents



Basis: All respondents who hold a current account. Question: Where is this bank account or where are these bank accounts held? Multiple answers possible. In previous years participants reported only their main current account (single answers). **1** Including don't know/no answer.

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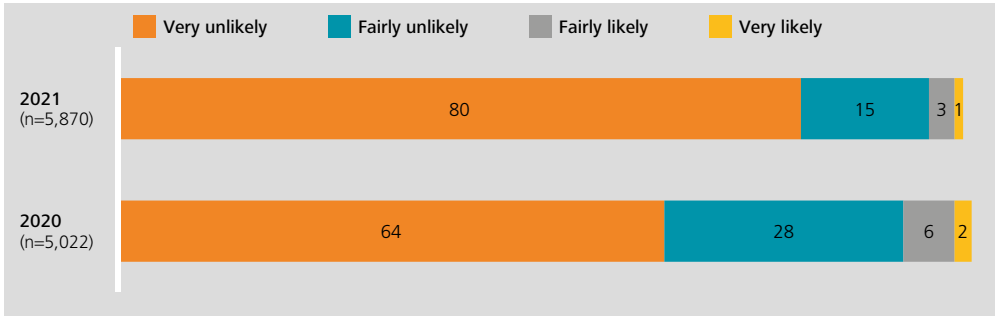
Current accounts at internet platforms

Fig. 4.1.3

%, as reported by respondents



Basis: All respondents. May fail to sum to 100 due to rounding. Question: Could you see yourself holding a current account at Google/Apple/Facebook/Amazon [25% of the basis each] instead of at your bank?

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A breakdown by age group in Figure A.4.1.2 also shows that the share of current accounts with savings banks as well as cooperative banks in the group of persons aged 18 to 24 is significantly higher than respondents overall, at 52% and 31% respectively, whereas banks in the Cash Group and direct banks are underrepresented, at 12% and 9% respectively. In the groups of persons aged 25 to 34 and 35 to 44, this ratio shifts significantly in favour of direct banks, which have shares of 31% and 25%, respectively. It stands to reason that, once a person completes their training or a university degree, embarks on a professional career and relocates their centre of life, their link to regionally anchored institutions will become weaker and other aspects of the customer relationship will come to the fore.

In addition to the aforementioned banks and savings banks, internet firms are increasingly entering the market as providers of payment services (with a corresponding license) or at least as intermediaries. Amongst other things, they offer current accounts, credit cards, instalment loans or payment apps (wallets) for making payments in retail outlets. However, **the willingness to use internet companies for account management is very low**. When asked whether they would hold a current account with Google, Apple, Facebook or Amazon, 95% of respondents said they were very unlikely or fairly unlikely to do so. This means that the rejection of large internet platforms as alternative providers of current accounts has increased slightly compared with 2020 (92%) (see Figure 4.1.3).[12] Scepticism grows further with advancing age. However, even in the digitally savvy younger groups of persons aged 18 to 24 and 25 to 34, only 9% and 6% respectively indicate that they would be fairly likely or very likely to hold their account with such an internet company (see Figure A.4.1.3).

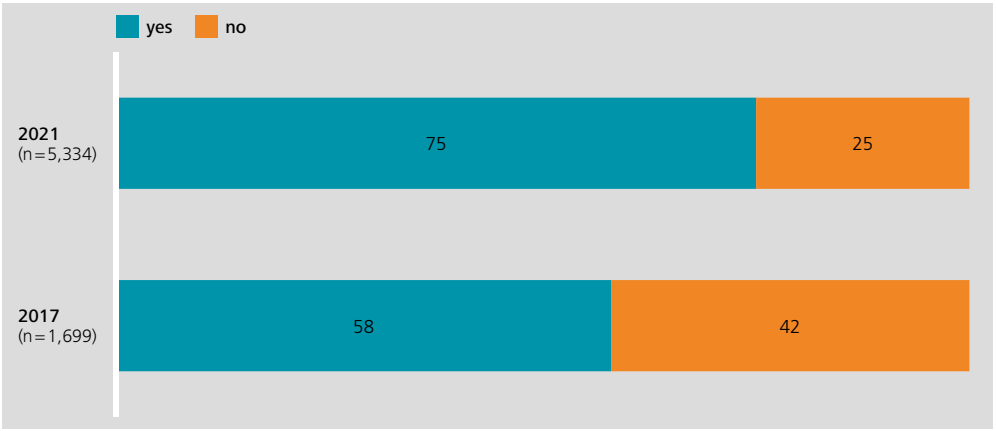
The use of online banking is reported by 75% of internet users, which represents a substantial increase compared with the 2017 survey (58%) (see Figure 4.1.4). With regard to demographic differences (see Figure A.4.1.4), the share of male online banking users is 78%, compared with 72% for women. Moreover, the use of online banking decreases with age, with 91% of the group of persons aged 25 to 34 indicating that they use online banking, while the share of online banking is only 58% for the group of persons aged 65 and above. Other socio-demographic differences can be observed with regard to the fi-

12 In 2021, one-quarter of the participants were asked at random whether they could see themselves holding a current account with Google, Apple, Facebook or Amazon. In 2020, no split was made; the survey only asked about large internet platforms and cited these providers as examples. For better year-on-year comparability, the values of the four sub-groups are therefore aggregated in the current study.

Use of online banking

Fig. 4.1.4

%, as reported by respondents



Basis: All respondents with access to a current account who have used the internet in the last three months. Question: Do you use online banking?

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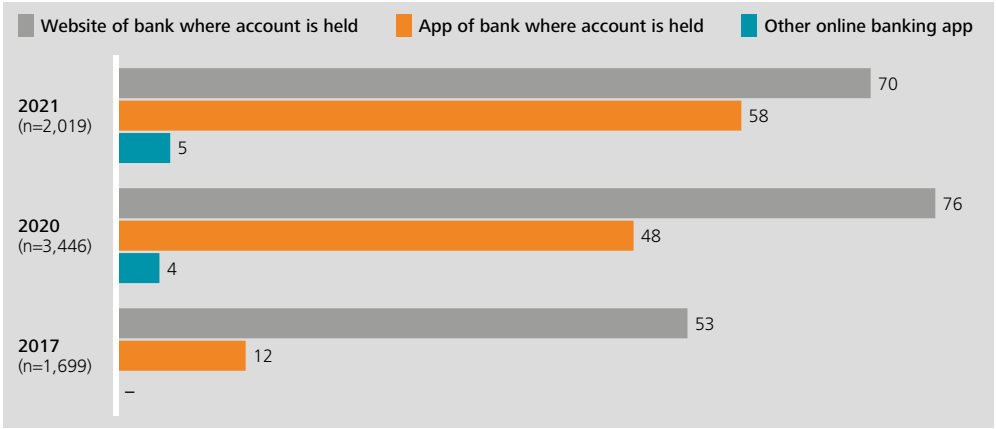
Online banking method

Fig. 4.1.5

%, as reported by respondents, multiple answers possible



Basis: Respondents using online banking (2021: in subgroup B). Question: How do you conduct your banking? Do you use your bank's online banking website, your bank's online banking app or an online banking app not operated by your bank?

Deutsche Bundesbank

nancial situation: the share of people using online banking is 87% in households with a net income of €4,500 and above, compared with 64% in households with a net income of less than €1,500.

The **majority** of respondents (70%) **use their bank's website for online banking**. At the same time, 58% use the bank's proprietary app. Only 5% of respondents reported using a third-party online banking app (see Figure 4.1.5). This represents a slight shift away from the website (down six percentage points) to the bank's app (up ten percentage points) compared with 2020. The use of third-party apps has stagnated at a low level. Owing to the overall greater popularity of online banking, the differences are more pronounced compared with 2017, when 53% of internet users accessed online banking via the website and only 12% accessed it via a bank's proprietary app. Socio-demographic differences are also evident in the access routes to online banking (see Figure A.4.1.5). For example, usage of the bank's proprietary app is five percentage points lower for women than for men (55% vs. 60%). In the group of persons aged 18 to 24, the use of the bank app is dominant at 81%, compared with access via the website at 45%. In the group of persons aged 65 and above, this ratio is almost reversed, at 76% (website), compared with 38% (app).

4.2 Ownership and use of payment cards

Figure 4.2.1 illustrates the growing ownership of payment cards among the population. Since the **girocard** issued by German credit institutions is usually part of the account package, almost all respondents (99%) now have such a debit card.[13] Accordingly, the increase since the start of the studies series has been small, at eight percentage points, and has slowed further since 2014. Debit cards by international schemes without an additional girocard function have become increasingly important.[14] They are predominantly issued by traditional direct banks, but also by newer fintech banks, which have been recording marked customer growth (see Chapter 4.1).

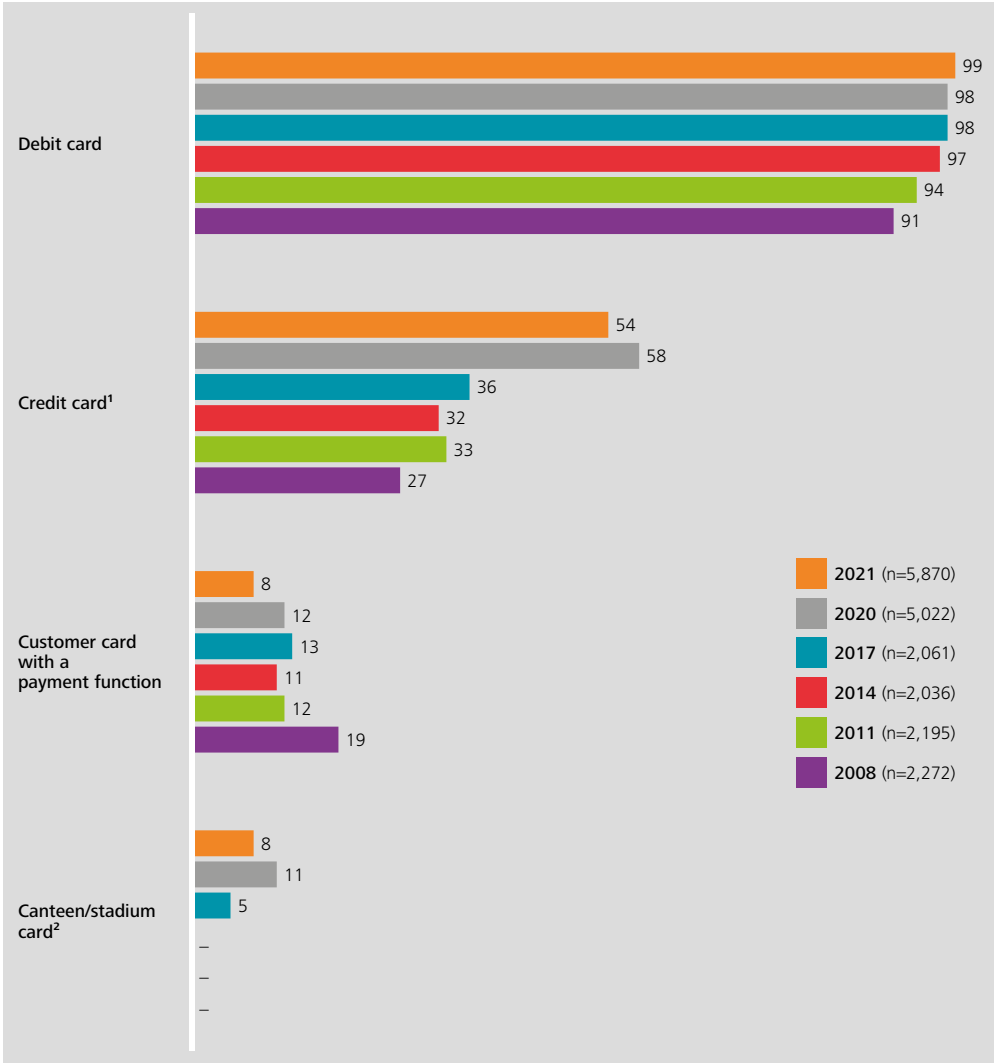
13 The girocard is offered on its own or, additionally, under the brand name of an international card scheme (Maestro/VPay, Mastercard/Visa Debit).

14 These are Mastercard Debit or Visa Debit cards.

Ownership of payment cards, 2008 - 2021

Fig. 4.2.1

%, as reported by respondents, multiple answers possible



Basis: All respondents. Question: Which of the following cards with a payment function do you own? **1** Including prepaid credit card since 2020. **2** Included in survey since 2017.

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By contrast, **credit cards** have risen by a significant 27 percentage points since 2008. The increase accelerated particularly between 2017 and 2020. It was particularly pronounced among respondents up to the age of 24 and those with a household income of between €1,500 and €3,000 (see Figures A.4.2.1 and A.4.2.2). On balance, several effects are having an impact. One factor is that credit cards are increasingly being used both for brick-and-mortar stores and for fast-growing e-commerce, as well as for overnight stays and leisure activities (see Figure 5.2.4), which means that demand for such cards is increasing. Another reason is that major retail chains are issuing credit cards under their own brand (e.g. Amazon, BahnCard, TUI). Some now no longer use the direct debit procedure with a delayed debit function for their customer cards, but have switched to credit cards (e.g. Ikea, Payback). In addition, prepaid credit cards account for six (2020) and four (2021) percentage points of the increase (see below).[15]

Between the 2020 survey and the present study, the number of credit cards decreased slightly by four percentage points. One reason for this could be a shift toward debit cards by international schemes.[16] As these have a similar range of functions, a credit card may no longer be required.

As regards **customer cards with a payment function**, part of the decline (by five percentage points since 2017) can be attributed to the aforementioned switch to credit cards issued by retailers. Another reason could be the ongoing pandemic situation, which constrained shopping at retail outlets and thus made those stores' customer cards less relevant to consumers. Although slightly more women have customer cards than men, they appear to be similarly widespread in almost all population groups with €1,500 and more in household income and up to 64 years of age (see Figure A.4.2.3).

During the pandemic, many school leavers were only able to start their vocational training or studies online. Some graduates have started their careers working from home. And foot-

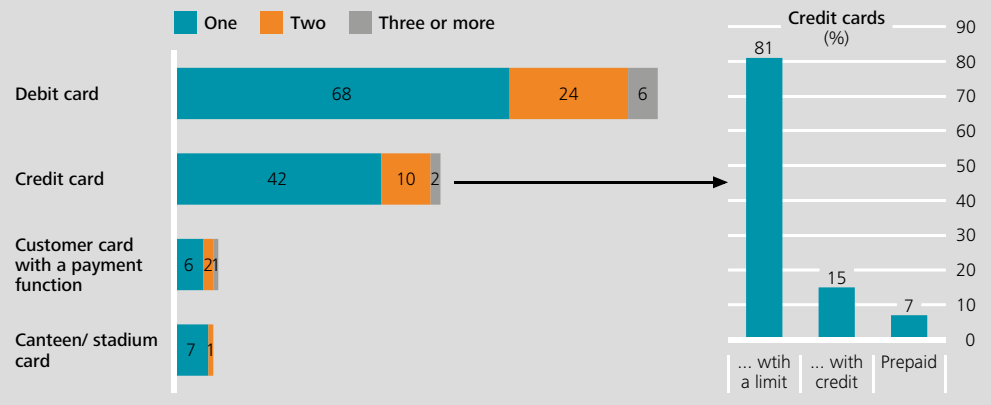
15 In the studies up to 2017, information on prepaid credit cards was included in the common category "prepaid payment cards" together with information on the GeldKarte and girogo. These two cards were no longer issued as of 2020, which means that prepaid credit cards have since been reported as a subcategory of credit cards. This biases the share of credit cards downward slightly for the 2008-2017 period.

16 See https://finanz-szene.de/payments/girocard-gegen-den-rest-der-welt-die-grosse-analyse-zum-deutschen-kartenmarkt/. Last accessed on 22 June 2022.

Ownership of payment cards by number per category

Fig. 4.2.2

%, as reported by respondents, multiple answers possible



Basis: All respondents (n=5,870). Question: Which of the following cards with a payment function do you own, and how many?

Basis: All respondents who own at least one credit card (n=3,183). Question: How many of your credit cards fall into the following categories?

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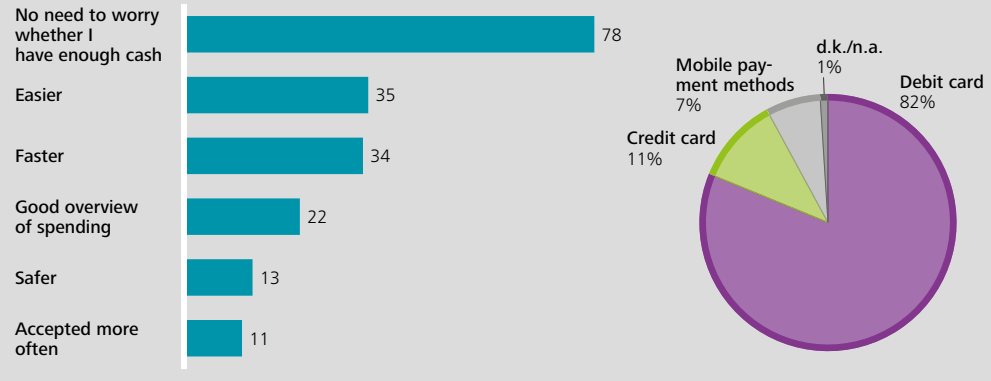
Benefits of cashless payments

Fig. 4.2.3

%, as reported by respondents, multiple answers possible



Basis: All respondents (n=5,870). Question: In your opinion, what are the most significant benefits of card payments compared with cash payments (maximum three responses)?

Basis: All respondents who prefer cards/ other cashless means of payment or do not have a preference (n=4,088). Question: Which of these payment methods do you prefer?

Deutsche Bundesbank

ball stadiums remained empty. Taken together, this can largely explain the decline since 2020 by three percentage points in **canteen/ stadium cards**. This is because these cards are mainly popular up to the age of 34. In addition, an above-average number of men and respondents with a household income in excess of €4,500 indicate that they own such a card (see Figure A.4.2.4).

Figure 4.2.2 shows that around one-third of the respondents (30%) have more than one girocard or other debit card, and 12% have more than one **credit card**, with more than twice as many men as women owning two or more credit cards (see Figure A.4.2.2). What is surprising is that 20% of respondents between the ages of 25 and 44 report owning two or more credit cards (see Figure A.4.2.1).

For the first time, this study covered which type of credit card is widespread among the general public. At 81%, the vast majority of interviewees indicate that they own what are known as **"charge cards".** This means that the card can be debited up to a pre-determined amount. At the end of a pre-defined settlement period (usually one month), the amount due is debited from the reference account.

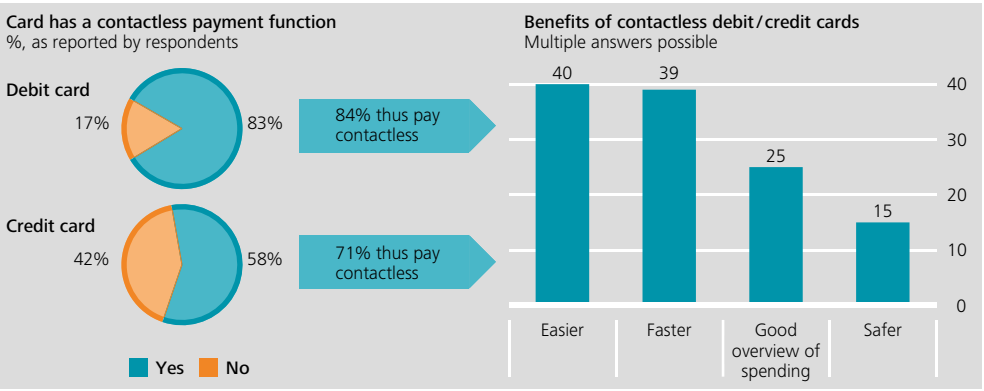
15% have a **card** that is actually linked **to a credit** (referred to as a "revolving credit card"). The amount in question can be repaid in instalments over several months. As a rule, interest is also payable. The data do not provide a clear link to household income or financial situation.[17]

The younger generation, in particular, purchase **prepaid credit cards**. This is the case for 26% of the group aged 18 to 24 who own at least one credit card and 16% for the group aged 25 to 34. That is, respectively, 19 and 9 percentage points higher than the average for the population at large.
In line with their high prevalence, 82% of the general public prefer a girocard or another debit card when asked about their **cashless payment preferences** (see Figure 4.2.3). As many as 11% choose a credit card and 7% opt for mobile payments at the point of sale. Of the latter, 71% are 18 to 44 years of age. By comparison, 37% of those respondents who prefer cards come from this age cohort; 63% are aged 45 and older.

17 It is true that those who own at least one credit card and assess their financial situation as bad, namely 21%, use such a "real" credit card more frequently than the participants as a whole. However, the number of those who are classified as part of this group, at 49 respondents, is too small to make sweeping statements.

Use of contactless debit/credit cards

Fig. 4.2.4



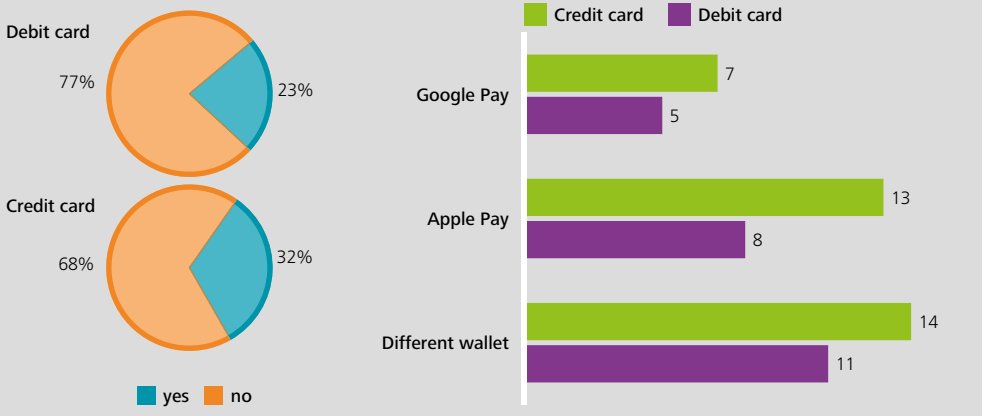
Basis: All respondents who own at least one debit card (n=5,793)/credit card (n=3,183). Question: Does your card have a contactless payment function, regardless of whether you use it?

Basis: All respondents who pay contactless with a debit/credit card (n=4,189). Question: In your opinion, what are the most significant benefits of card payments compared with cash payments (maximum three responses)?

Deutsche Bundesbank

Debit or credit card registered in a payment app

Fig. 4.2.5



Basis: All respondents who own at least one debit card (n=5,793)/credit card (n=3,183). Question: Have you registered one or more of these cards in an app for mobile payments?

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The vast majority (78%) of the population see the **benefit of card payments** in not having to worry while shopping whether they have enough cash in their wallet (see Figure 4.2.3). More than one-third regard card payments as being easier (35%) and faster (34%). Some cite a good overview of expenditures (22%) and security (13%) as an advantage over cash payments.

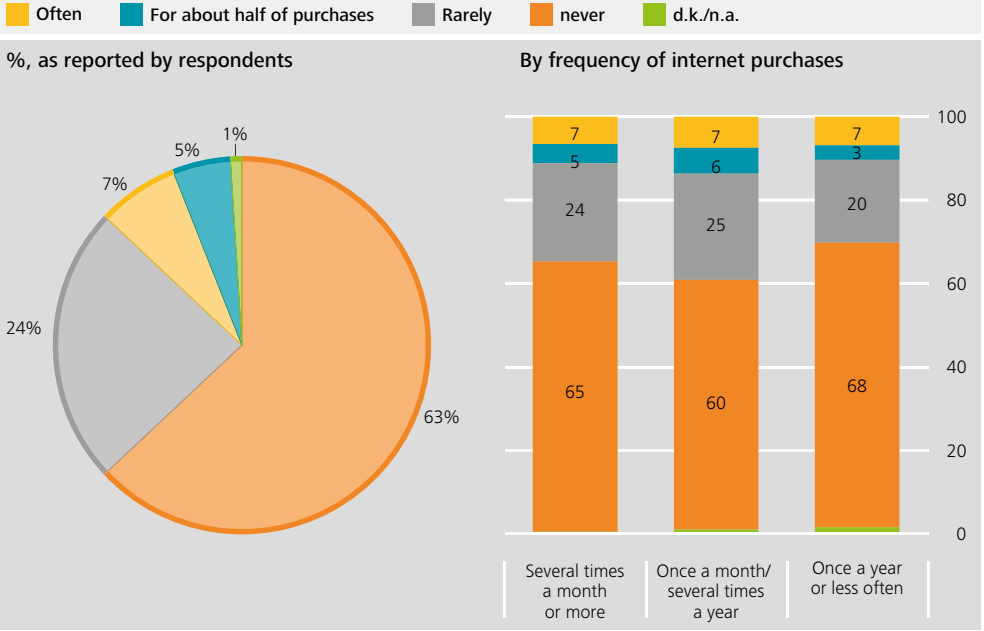
A major innovation in card payments over the past few years has been the introduction of the **contactless function**, in which the card is held near the terminal for only a few seconds and, as a rule, no PIN is entered for amounts up to €50. The coronavirus pandemic gave such contactless payment a boost, as became already evident in the 2020 study. Ownership of such cards and their use increased further in 2021 compared to 2020 (see Chapter 5.2).

83% of girocards or other debit cards now have **a contactless payment function**, ten percentage points more than a year ago. In the case of credit cards, 58% of study participants report that their card is contactless, an increase of three percentage points (see Figure 4.2.4, left-hand side). In fact, almost all debit and credit cards now contain an NFC chip. However, this does not always seem to be clear to the card holders themselves, in particular. One of the reasons for this could be that they use their card less frequently for purchases at retail outlets than for online shopping. This conclusion is also suggested by the evaluations of the payment diaries (see Chapter 5.3).

There has also been an increase in the number of people **who also pay contactless** using their debit or credit card. In 2021, this was done by 84% and 71% of respondents respectively, an increase of six and four percentage points respectively compared with the 2020 study. Differences in usage between socio-demographic groups are small (see Figure A.4.2.5). Their popularity is likely to be due to the perceived **benefits** of this method of payment. Those who use their cards contactless regard card payments to a greater extent as easier and faster than cash payments – compared with the average of all respondents (five percentage points more in Figure 4.2.4, right-hand side, compared with Figure 4.2.3, left-hand side). They also perceive additional benefits in terms of an overview of spending and security.

Meanwhile, smartphones and other devices such as smartwatches or fitness wristbands also allow contactless card payments. This requires the card to be **stored in a digital wallet**. 23% of participants have already stored at least one debit card, and 32% a credit card, in

Cancellation of purchases due to security queries when shopping online Fig. 4.2.6



Basis: All respondents who own at least one credit card and who buy at least rarely on the internet in subgroup B (n=1,427).
Question: If, in the last few months, you wanted to pay for something online with your credit card, how often have you cancelled the purchase and chosen a different payment medium because you were not able to deal with the security query (e.g. 3D secure password, mobile TAN)?

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such a wallet (see Figure 4.2.5, left-hand side). This is particularly common among younger people up to 44 years of age, men and respondents with a household income above €4,500 (see Figure A.4.2.6). When asked where they store their cards, most of them report using a different wallet (provided by their bank or savings bank), followed closely by Apple Pay (see Figure 4.2.5, right-hand side). Only very few – between 0.4% and 0.6% – combine two of the three types of wallet.

Since March 2021, credit card payments on the internet have generally been subject to stricter security requirements. However, in some cases, these new requirements cause consumers to **cancel their purchases.** One-quarter (24%) of respondents said that they rarely cancel online purchases because of security queries. At least 12% do so for at least half of the purchases (see Figure 4.2.6, left-hand side). However, the majority of study participants (63%) have never aborted a purchase.

No clear trend can be seen, though, as to in which online purchasing behaviour or in which population groups these problems occur repeatedly. This is illustrated, for example, by the fact that no clear link can be established to experience with internet purchases (see Figure 4.2.6, right-hand side). Similarly, this also applies to socio-demographic characteristics: 8% of men reported cancelling half or more of their purchases due to security queries. The figure for women is 16%. The age group that most often cancels at least half of its purchases is that of 25 to 34-year-olds, at 19%. In all other age groups, the share is between 9% (aged 18 to 24 and aged 65 and older) and 13% (aged 55 to 64). Chapter 4.4 deals in more detail with online payments, including also alternative means of payment.

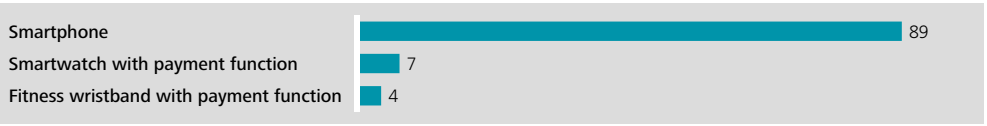
4.3 Mobile payments in retail

Use of mobile payments is conditional on having a smartphone or a wearable (smartwatch or fitness wristband) with a payment function, on which a digital image of a debit or credit card is stored in a wallet. Payments are made in a similar way to contactless payments with a physical card by holding the NFC-enabled smart device up against a payment terminal. With some payment methods, smartphones must be unlocked if the amount exceeds €50; in other cases, biometric authentication is always required (e.g. using facial recognition or a fingerprint). For wearables, it is usually sufficient to enter a PIN when putting it on.

Ownership of mobile devices

Fig. 4.3.1

%, as reported by respondents, multiple responses possible

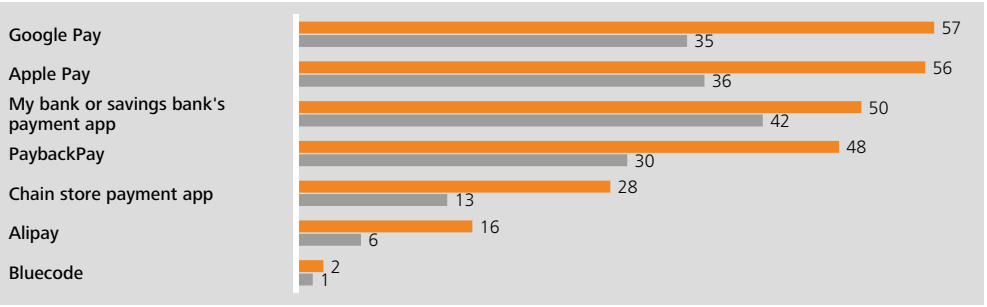


Basis: All respondents (n=5,870). Question: Do you personally own one or several of the following devices?
Deutsche Bundesbank

Familiarity with mobile payment methods

Fig. 4.3.2

%, as reported by respondents, multiple responses possible **2021** (n=5,870) **2020** (n=5,022)

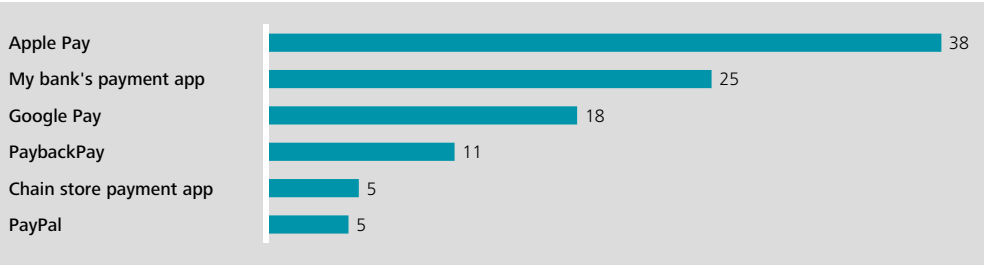


Basis: All respondents. Question: Which of the methods shown are you familiar with?
Deutsche Bundesbank

Usual use of mobile payment methods at the POS

Fig. 4.3.3

%, as reported by respondents, multiple responses possible



Basis: All respondents familiar with at least one innovative payment method and who have paid at the POS using their smartphone (n=892). Question: When paying with your smartphone/smartwatch or fitness wristband at the point of sale in a store, which payment method do you usually use?
Deutsche Bundesbank

For some mobile payment solutions, however, such as retail payment apps, it is possible to store bank account details instead of a card in the wallet for payment at the point of sale. The payment is initiated by a QR code being read either at a terminal or on a smart device and the customer then confirms the purchase. Once the payment has been completed at the point of sale or at the end of a settlement period, a corresponding direct debit is drawn from the account.

Overall, **smartphone** ownership is high among consumers. In 2021, around 89% of respondents have a smartphone (see Figure 4.3.1), up by a further five percentage points on 2020. This figure decreases with age (see Figure A.4.3.1). In 2021, respondents were asked about **ownership of wearables** with a payment function for the first time: 7% of respondents own a smartwatch and 4% a fitness wristband. As is the case with smartphones, ownership of wearables also declines with age.

In order to capture the **significance of new payment methods**, participants were first presented with a list of numerous innovations in payments and asked whether they were familiar with them. This reveals that familiarity with all of the payment methods that can be used at the physical point of sale has increased considerably compared with the 2020 survey. In 2020, more than one-third of participants stated that they were familiar with Google Pay, Apple Pay and the banking apps provided by banks or savings banks. In 2021, familiarity with all of the above-mentioned payment methods increased to 50% or more, as shown in Figure 4.3.2.

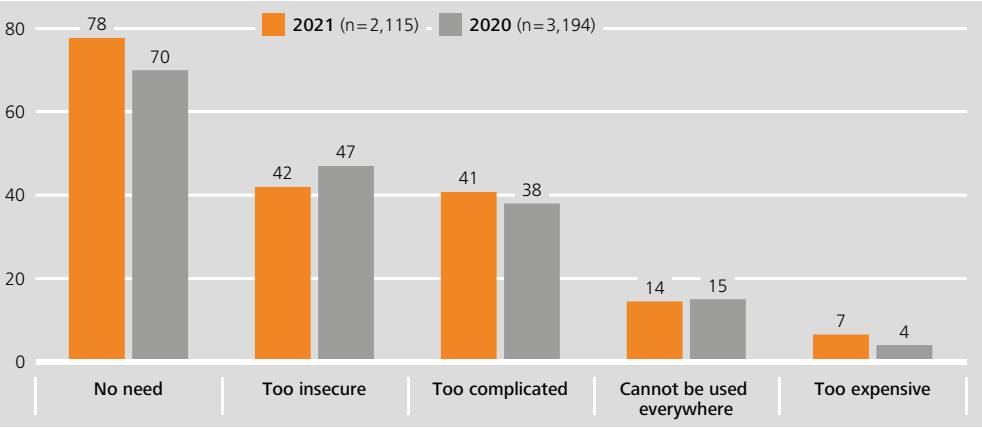
The second part of the query focused on whether respondents are using mobile payment methods in stores. Among the respondents who said they own a smartphone and are familiar with at least one innovative payment method, 17% had used a smartphone to pay at the point of sale. This represents an increase of more than four percentage points on the previous year. All owners of wearables who are familiar with at least one innovative payment method were asked the same question for the first time in 2021: 27% of them had used wearables to pay at the point of sale.

A breakdown by age group shows that mobile payment solutions are being used to a greater extent across the board than in the previous year (see Figure A.4.3.2), particularly by the group of respondents aged under 45. A similar picture emerges when broken down by

Reasons for non-use of mobile payment methods

Fig. 4.3.4

%, as reported by respondents, multiple responses possible



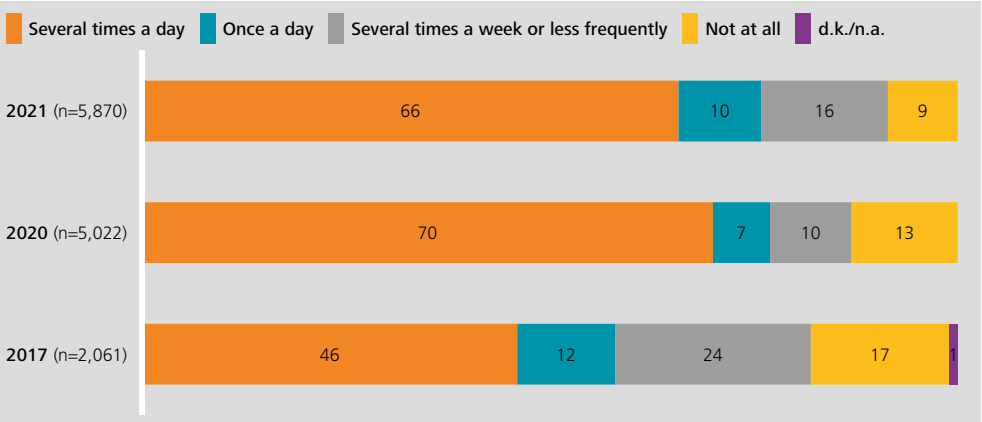
Basis: Respondents who have not yet paid using a smartphone at the point of sale in a store (2021: in sub-group B). Question: Why have you not used any mobile payment methods at the point of sale in a store yet?

Deutsche Bundesbank

Internet use

Fig. 4.4.1

%, as reported by respondents



Basis: All respondents. May fail to sum to 100 due to rounding. Question: Thinking about the past three months, how often, if at all, did you use the internet?

Deutsche Bundesbank

gender. Almost one in every four men has used a smartphone to pay at the point of sale; the respective share for women is only one in every eight (and with a smaller increase of three percentage points on the year).

Alongside familiarity with mobile payment methods (see Figure 4.3.2), respondents were also asked **which of these payment solutions they usually use**. The ranking of these payment solutions has changed somewhat. While Google Pay is the most well-known method, albeit only slightly ahead of Apple Pay, the latter is usually used by more than twice as many respondents (38% compared with 18%, see Figure 4.3.3). Payment apps provided by banks or savings banks are usually used by 25% of respondents. Payback Pay is typically used by 11% of the population.

A large proportion of the population has not yet paid with a smartphone or a wearable in a store. As in 2020, the main **reason for non-use** is that respondents saw no need (78%, see Figure 4.3.4). Almost one in every two respondents (42%) stated that these methods are too insecure, although a decline of five percentage points is evident compared with 2020. This aspect, in connection with the rise in the use of mobile payment methods, could potentially indicate that confidence regarding the security of these methods has grown. At the same time, more respondents than in 2020 indicated that payment solutions are too complicated (41%, up three percentage points).

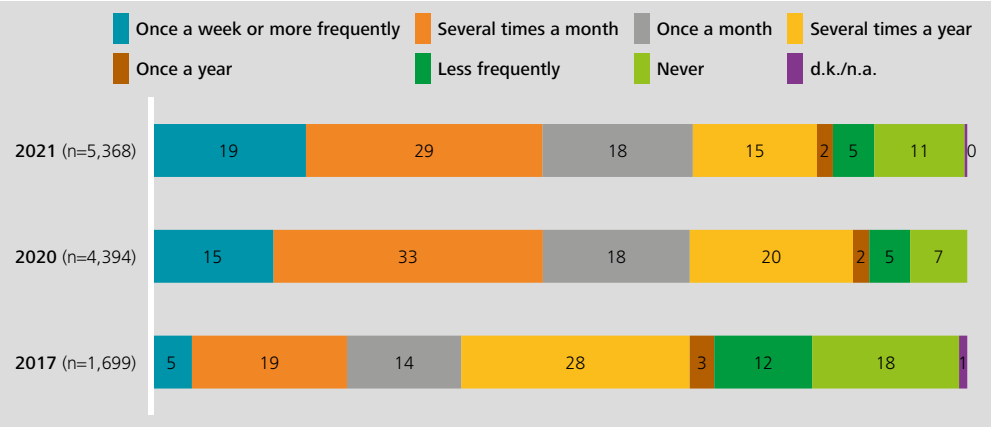
4.4 Payments made online and between individuals

In terms of **internet use,** just over three-quarters of respondents use the internet daily (66% several times a day and 10% once a day). By way of comparison: in 2020, 77% of respondents stated that they used the internet once or several times a day, whereas this figure stood at 57% in 2017 (see Figure 4.4.1). The share of respondents who do not use the internet at all fell further to 9% (2020: 13%; 2017: 17%). With regard to socio-demographic differences, the study shows that women use the internet much less intensively than men (see Figure A.4.4.1); at 11%, the percentage of women who do not use the internet is almost twice as high as that of men (6%). Furthermore, internet use declines with age; in the group of respondents aged 65 and above, 23% never use the internet. A similar picture emerges with regard to participants' financial situation: 27% of respondents with a net household income of less than €1,500 reported that they do not use the internet at all, compared with 1% of those with a household income of €4,500 or more.

Internet purchase frequency

Fig. 4.4.2

%, as reported by respondents



Basis: Respondents who have used the internet in the last three months. May fail to sum to 100 due to rounding. Question: How often do you shop online? Please also think of purchases made using an app.

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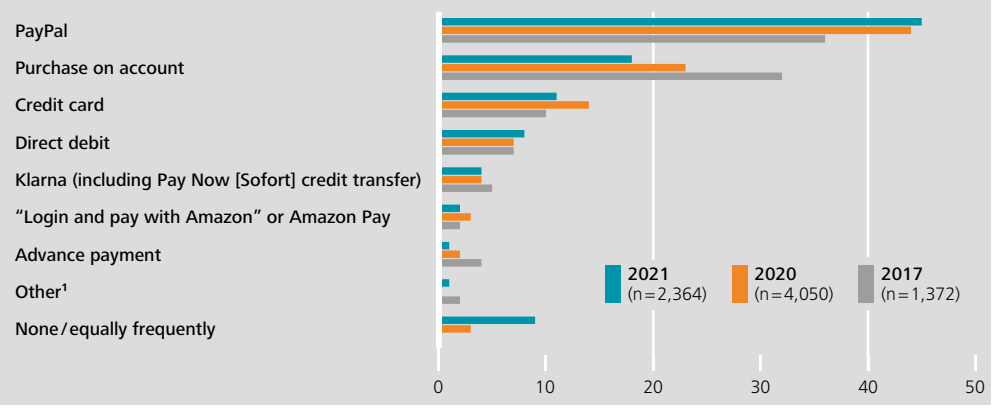
Most frequently used online payment method

Fig. 4.4.3

%, as reported by respondents



Basis: Respondents who have used the internet in the last three months (2021: in subgroup B). Question: Which method do you use most frequently for online purchases? **1** Apple Pay, giropay (formerly Kwitt or paydirekt), Google Pay, voucher or gift card, cash on delivery and prepaid credit card.

Deutsche Bundesbank

Similar patterns can be seen in **online shopping**: the share of respondents who shop online at least once a month amounts to 66% and is therefore unchanged on 2020. Compared with 2017, this share has risen sharply by 28 percentage points (see Figure 4.4.2). As is the case with internet use in general, men and younger people shop online much more frequently than women and older people (see Figure A.4.4.2). For instance, 26% of respondents aged 65 and above and 23% of people with a household income of less than €1,500 never shop online.

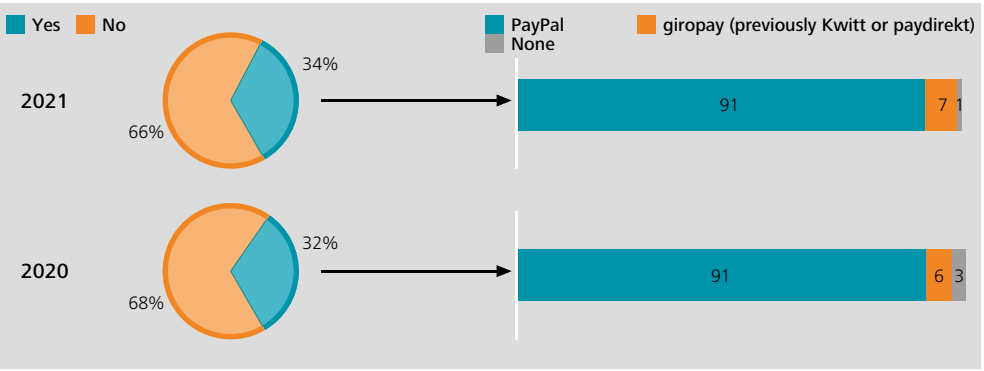
With a share of 45%, PayPal is the most frequently used payment method for **online purchases** (see Figure 4.4.3), followed by purchases on account and credit transfers (18%), credit cards (11%) and direct debits (8%). Changes compared with previous years are particularly evident with regard to the popularity of PayPal (2020: 44%; 2017: 36%), while the share of respondents who pay most frequently by credit transfer after delivery continues to decline (2020: 23%; 2017: 32%). Figure A.4.4.3 shows that women make purchases on account twice as often as men (24% compared with 12%). Age-specific differences are especially visible with regard to payment by PayPal and purchases on account: with a share of 62%, PayPal is the most frequently used payment method among respondents aged 24 and under, whereas purchases on account only make up a share of 6%. The opposite is true for those aged 65 and over: at 37%, purchases on account are the most frequently used means of payment, followed by PayPal at 29%.

Traditionally, money is exchanged in cash between friends, family and acquaintances and only transferred in rare cases. Payment service providers have been trying for some years now to replace cash in this area with **person-to-person (P2P) payments.** Figure 4.4.4 shows that 34% of respondents reported having used such a solution in the past, a slight increase on 2020 (32%) and a significant increase on 2017 (5%). As was the case in the previous year, **PayPal was the dominant method used to settle P2P payments**, accounting for a share of 91%; giropay accounted for 7% (2020: Kwitt: 5% and paydirekt: 1%). However, there are clear differences between age groups (see Figure A.4.4.4): for example, almost two-thirds (64%) of respondents up to the age of 34 have used P2P payment methods and as many as half of respondents in the 35-44 age group. This share came to 29% for the group aged 45 to 54, 17% for those aged 55 to 64 and 5% for the group aged 65 and above.

Use of P2P and method usually used

Fig. 4.4.4

%, as reported by respondents



Basis: Respondents who own a smartphone and are familiar with PayPal or giropay (2021: n=4,902; 2020: n=4,176). Question: Have you ever sent money to relatives, friends or acquaintances via smartphone using payment methods such as giropay (previously Kwitt or paydirekt)?

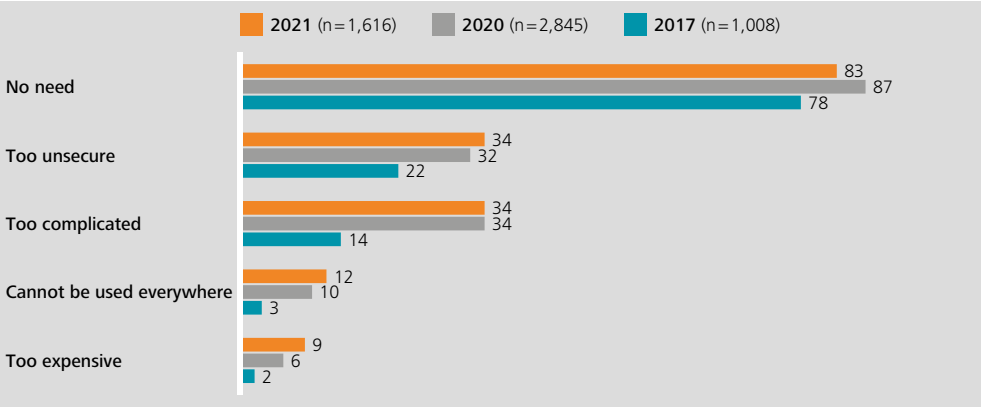
Basis: Respondents who sent money to relatives, friends or acquaintances via smartphone using payment methods such as giropay (previously Kwitt or paydirekt) (2021: n=1,661; 2020: n=1,331). May fail to sum to 100 due to rounding. Question: Which of the following methods do you usually use for this purpose?

Deutsche Bundesbank

Reasons for not using P2P

Fig. 4.4.5

%, as reported by respondents, multiple responses possible



Basis: Respondents who do not use any of the named mobile payment methods to send money to family members, friends or acquaintances (2021: in subgroup B). Question: Why have you not yet used any mobile payment method to send money to relatives, friends or acquaintances?

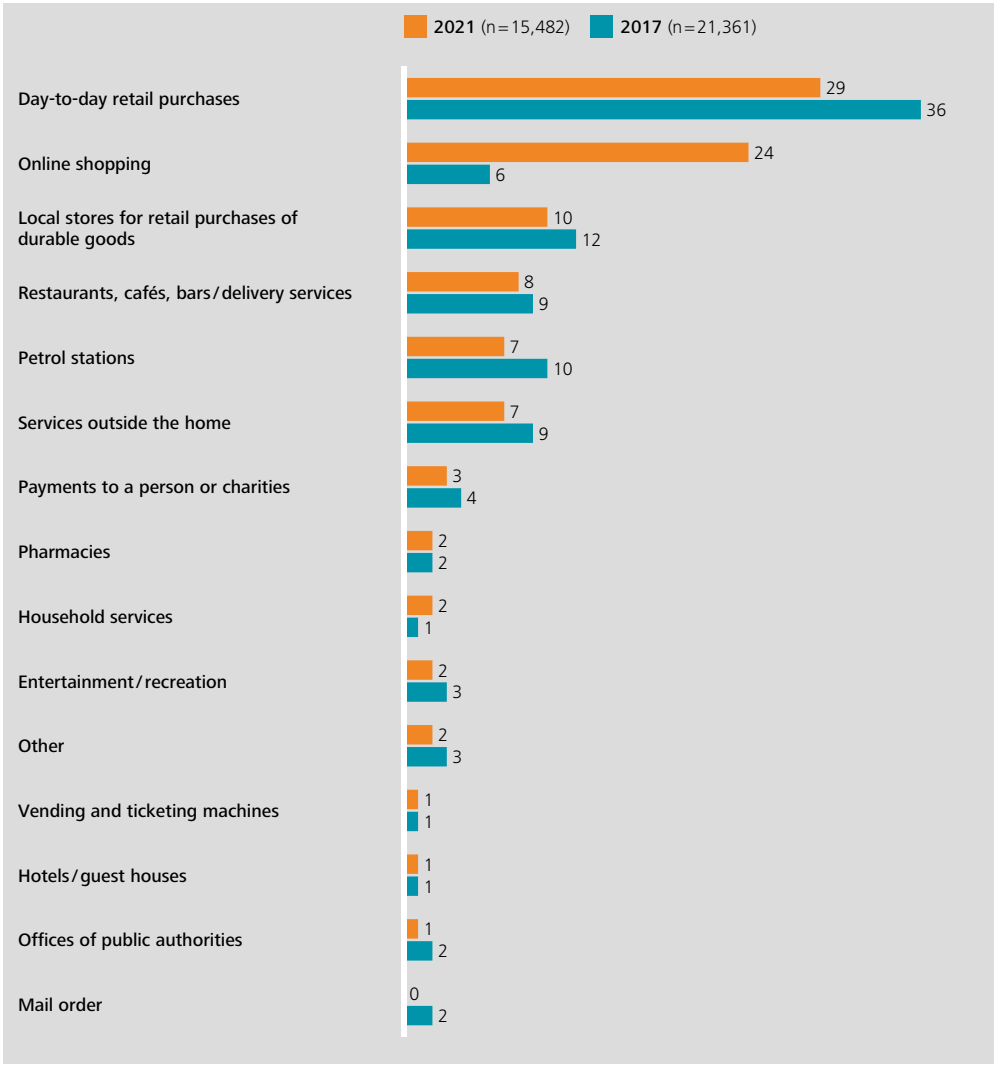
Deutsche Bundesbank

The majority of respondents who do not use P2P payments do not see the need to do so (83%). Just over one-third (34%) of respondents consider this method too insecure and too complicated, while general acceptance (12%) and cost considerations (9%) play a minor role (see Figure 4.4.5). Overall, no significant shifts in the reasons for non-use have occurred compared with previous years. No significant differences with regard to socio-demographic factors are apparent (see Figure A.4.4.5).

Significance of individual payment locations measured by turnover

Fig. 5.1.1

%, as reported in payments diary



Basis: All transactions (2021: 605,251 €; 2017: 626,101.51 €). Question: Where has the expenditure incurred/what kind of expenditure was it?

Deutsche Bundesbank

5 Use of payment instruments

5.1 Overview of entries in the payments diary

Following the interviews, participants were asked to record their payments for three days. A total of 4,197 people were willing to do so. Overall, information was collected on 15,482 transactions with a total value of €605,251.

The diaries cover a **wide range of payment locations**. At 29%, the lion's share of turnover recorded came from day-to-day retail purchases (e.g. supermarkets, drugstores), followed by online purchases (24%), retail purchases of durable goods (10%), payments at restaurants, bars, cafés (8%), payments at petrol stations (7%), and services outside the home (e.g. hairdresser) (7%) – see Figure 5.1.1.

The significance of the major payment locations shifted between 2017 and 2021. A much **greater share of turnover** was generated **online** (up 18 percentage points), although retail trade, food services and service enterprises were open (subject to certain conditions) during the survey period. By contrast, the share of turnover in bricks-and-mortar shopping venues fell significantly (local stores for day-to-day purchases down by seven percentage points, local stores for durable goods down by two percentage points, petrol stations down by three percentage points). This observation is consistent with data from the Federal Statistical Office on developments in private consumption.[18] Other expenditure, for example on services outside the home (e.g. hairdresser), at restaurants, bars and cafés, on leisure activities as well as at offices of public authorities declined by one to two percentage points in each case. Solely **household services** saw respondents increase their spending somewhat in relation to 2017 (up two percentage points).

5.2. Overall use of payment instruments

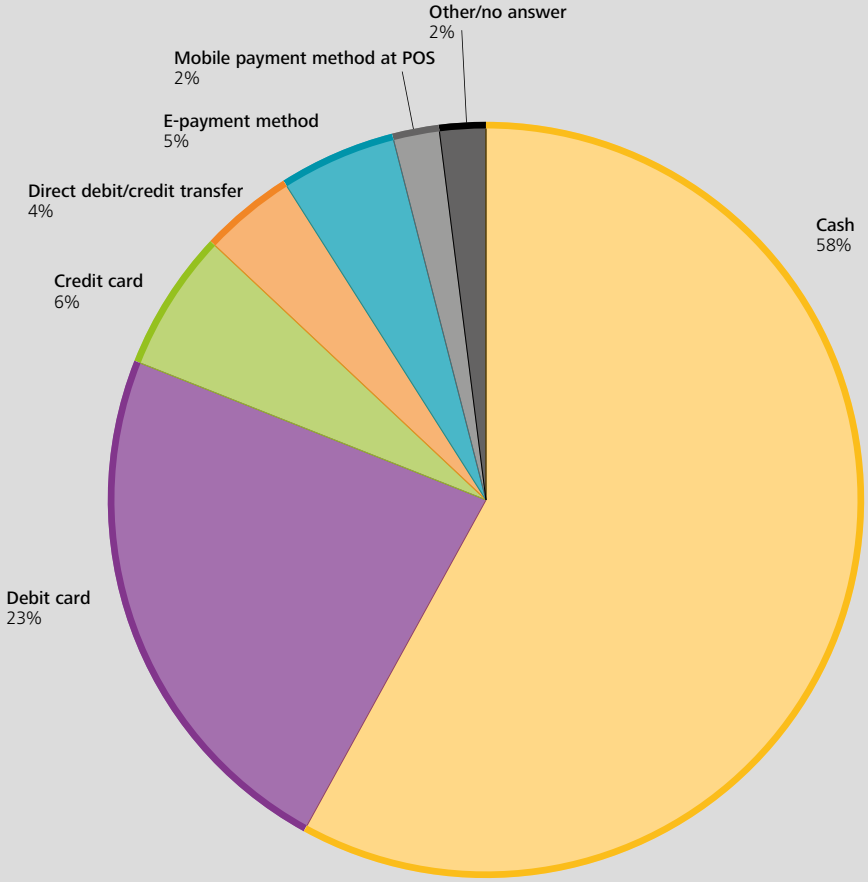
The diaries evidence how many purchases are made using a given means of payment and the value of these purchases. Figure 5.2.1 and Table 5.2.1 on the next pages show the share

18 Federal Statistical Office, Press release No 337 of 13 July 2021 (Economic activity in mid-2021) and No N 063 of 5 October 2020 (Department stores in the crisis).

Share of payment instruments measured by total number of transactions

Fig. 5.2.1

%, according to payments diary



Basis: All transactions (n=15,482).
Deutsche Bundesbank

of the total transactions from the diaries paid for using cash, cards or other means of payment (share of transactions). Figure 5.2.2 and Table 5.2.2 show the share of total expenditure attributable to individual means of payment (share of turnover).

As measured by the **number of transactions**, cash is currently the most frequently used means of payment with a share of 58%, followed by payments by debit card (23%),[19] credit card (6%) and by direct debit/credit transfer (4%). E-payment methods account for 5% and mobile payment methods for 2% of all transactions (see Figure 5.2.1.). Looking at the shares of turnover, the same amount is paid for in cash as by debit card (30% each). This is followed by direct debits and credit transfers with a combined share of 19%, and credit card payments with a share of 10%. E-payment schemes account for 8% and mobile payment methods for 2% of turnover (see Figure 5.2.2. on the next page).

The population's **payment behaviour** has **changed considerably** over the past four years. For example, the share of cash payments measured by the number of transactions has declined by 16 percentage points since 2017 (by 18 percentage points when measured by turnover). However, this significant decline is attributable at least in part to the impact of the coronavirus pandemic and has lost considerable momentum of late. It remains to be seen whether and to what extent an end to the pandemic could also put an end to this trend or even reverse it.

Conversely, the transaction share of debit and credit cards grew by four and five percentage points respectively. While the share of total turnover accounted for by credit cards is around six percentage points greater than in 2017, debit cards' share of turnover has declined by four percentage points. This opposite trend seen in the case of debit cards (relatively greater use but with a relatively lower share of turnover) is likely to stem, on the one hand, from an overall increase in online purchases. On the other hand, people also increasingly settled smaller payment amounts in cashless form using debit cards during the coronavirus pandemic (see Figure 5.2.3 on p. 28). Compared with 2017 and 2020, both the transaction share and the turnover share accounted for by contactless payments recorded a significant rise at the expense of traditional debit card payments. Furthermore, the shift in purchases to the internet has caused e-payment methods to increase by three

19 In the following, this always refers to "girocard or other debit cards issued by international card schemes" – see Chapter 4.2 for a definition.

Share of payment instruments measured by number of transactions

Tab. 5.2.1

%, as reported in payments diary

Payment instrument	Share		
	2021	2020	2017
Cash payment	57.8%	60.1%	74.3%
Card payment			
Debit card	22.6%	23.1%	18.9%
with PIN/signature	7.0%	12.2%	18.4%
contactless	15.1%	10.8%	0.5%
online	0.5%	0.1%	-
Credit card (incl. prepaid)	6.2%	6.0%	1.6%
with PIN/signature	1.2%	1.2%	1.5%
contactless	3.2%	3.5%	0.1%
online	1.8%	1.3%	-
Other card			
Customer card	0.2%	0.3%	0.1%
Canteen/stadium card	0.8%	0.8%	0.2%
Other cashless payments			
Credit transfer	2.5%	2.4%	1.3%
Direct debit	1.9%	2.2%	0.6%
E-payment methods	5.0%	2.0%	1.9%
of which PayPal	4.2%	1.8%	-
of which other*	0.8%	0.2%	-
Mobile payment methods	2.1%	2.0%	0.1%
of which Apple Pay/Google Pay	1.7%	1.3%	-
of which a bank's payment app	0.3%	0.3%	-
Other / no payment instrument named	1.0%	1.0%	1.0%
Total	100%	100%	100%

Basis: All transactions from the diaries.
* < 1 %: Amazon Pay, Apple Pay, giropay/paydirekt, Google Pay, klarna
Deutsche Bundesbank

Share of payment instruments measured by turnover

Tab. 5.2.2

%. as reported in payments diary

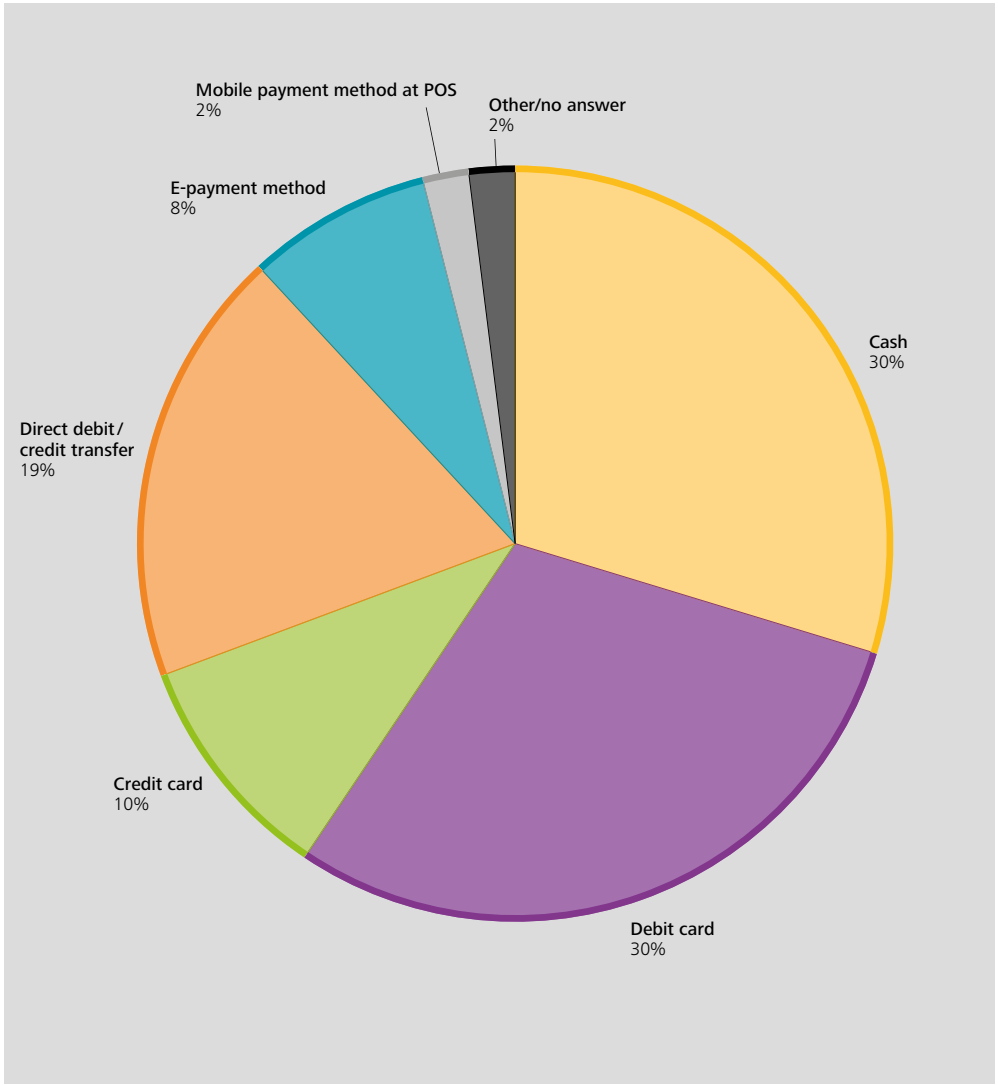
Payment instrument	Share		
	2021	2020	2017
Cash payment	29.9%	31.9%	47.6%
Card payment			
Debit card	29.9%	32.8%	34.9%
with PIN/signature	11.6%	22.8%	34.0%
contactless	16.3%	9.9%	0.9%
online	2.1%	0.1%	-
Credit card (incl. prepaid)	10.4%	10.8%	4.6%
with PIN/signature	2.6%	1.8%	4.4%
contactless	4.6%	4.3%	0.2%
online	3.3%	4.7%	-
Other card			
Customer card	0.2%	0.6%	0.1%
Canteen/stadium card	0.1%	0.1%	0.0%
Other cashless payments			
Credit transfer	15.0%	13.7%	5.6%
Direct debit	3.7%	3.5%	2.4%
E-payment methods	7.7%	4.1%	3.7%
of which PayPal	6.0%	3.6%	-
of which other*	1.6%	0.5%	-
Mobile payment methods	1.6%	1.5%	0.0%
of which Apple Pay/Google Pay	1.0%	1.0%	-
of which a bank's payment app	0.3%	0.2%	-
Other / no payment instrument named	1.6%	1.1%	1.1%
Total	100%	100%	100%

Basis: Total turnover from the diaries.
* < 1 %: Amazon Pay. Apple Pay. giropay/paydirekt. Google Pay. klarna
Deutsche Bundesbank

Share of payment instruments measured by turnover

Fig. 5.2.2

%, according to payments diary



Basis: All transactions (n=15,482, total value: € 605,251).
Deutsche Bundesbank

percentage points in terms of both the transaction share and the turnover share they account for compared with 2017 and 2020.

However, not all respondents in Germany pay in the same way – **significant differences** can be seen between **socio-demographic** groups. Figure A.5.2.1 shows the turnover shares of payment instruments for different age groups: as before, cash is primarily used by older persons. The group with the smallest turnover share of cash is those between 35 and 44 years old. These middle-aged respondents, with high outgoings coupled with considerable familial and occupational pressures, seemed to find cashless payment methods and internet purchases more practical under certain circumstances. Accordingly, both the share of credit card payments (12%) and the share of direct debits/credit transfers (30%) are at their highest in this age group. Overall, compared with 2017, the share of cash payments decreased across all age groups.

By contrast, the share of turnover accounted for by credit cards as well as by direct debits/credit transfers increased across the board, particularly in the 35-44 age group (up 26 percentage points). The use of debit cards ranged between 25% (65+ age group) and 35% (45-54 age group), measured by payment value. The share of turnover accounted for by e-payment methods was highest in the 25-34 age group, at 19%, and declined as age increased.

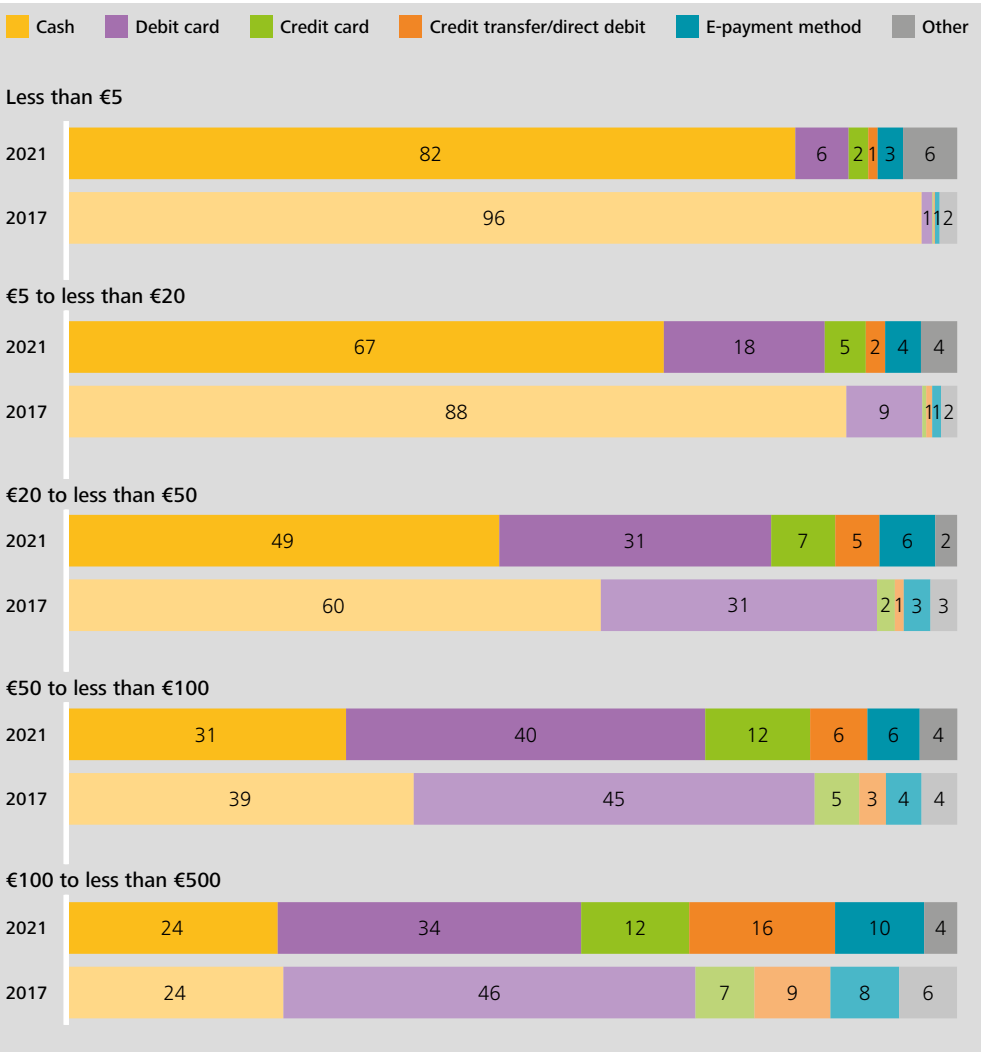
There are also differences in the choice of payment method by **gender** (see Figure A.5.2.2). Women still pay for a larger share of their purchases in cash than men (32% vs 28%). The difference is even more pronounced when it comes to debit card usage. The share of turnover accounted for by debit cards is nine percentage points higher for women than men, making debit cards the most popular means of payment among women (35%). Direct debits/credit transfers make up a larger share of turnover for men (22%). They paid 13% of their transaction amounts with credit cards, while this figure was only 8% for women.

Looking at the chosen means of payment in different **income groups**, it can be seen that cash is still used significantly more by respondents with lower income (36% of turnover for persons with a net household income of less than €1,500). This underscores the special role played by cash with regard to budget control (see Figure A.5.2.3 and Chapter 3.3). In terms of cashless payment methods, the lowest-income and highest-income groups had the highest share of e-payment method usage across all expenditure locations (9%), whereas this figure stands at 6% for the middle income group.

Share of payment instruments by number of transactions broken down by transaction amount categories

Fig. 5.2.3

%, as reported in payments diary



Basis: All transactions (n=15,482, total value: €605,251).
Deutsche Bundesbank

The **payment amount** plays an important role in the decision of which payment method to use. Figure 5.2.3 shows the share of payments in a specific transaction amount category that are made in cash, by card or using other means of payment. Although smaller payment amounts are still predominantly paid in cash, the share of sums in the €5 to less than €20 category paid by debit card has doubled since 2017, from 9% to 18%. Debit cards now even account for 6% of the smallest payments, i.e. those under €5. Multiple factors, which are explained in more detail in the "Background" box on the next page, play a role in this development. The development of credit card payments as a share of the value of all transactions presents a similar picture, albeit to a lesser degree. Credit card usage expanded above all for payments over €50, reaching a share of 12%. One explanation is likely to be that the general public not only made more of their purchases online in the wake of the coronavirus pandemic, but also purchased larger amounts of goods in one go or stockpiled them (see Figure 5.3.3). This is reflected in the increased share of turnover accounted for by e-commerce since 2017 and in the higher average amount per diary transaction. Whilst in 2017 the average amount across all transactions was €29, this figure stood at €41 in 2021.

Further factors in the choice of payment method are the **expenditure type and location**. They determine the situation in which a payment is made and what means of payment are available. Figure 5.2.4 on page 30 shows the turnover shares for selected expenditure types and locations. Cash is used at an above-average frequency at vending and ticketing machines (70%), for payments between private individuals (68%), at restaurants, bars and cafés (61%), at pharmacies (45%) and for day-to-day retail purchases (43%). In other areas, there is an above-average tendency to use cashless payment methods. Overall, the share of cash payments has declined almost everywhere.

Cashless payment instruments appear to be widely distributed between the different expenditure locations and purposes. Debit cards are the means of payment accounting for the greatest share of turnover for durable goods (57%), at petrol stations (50%) and for day-to-day purchases (45%). Compared with 2017, however, proportionally fewer payments for durable goods and petrol were made by debit card (down 8 percentage points and 11 percentage points respectively). This worked in favour of credit cards, the turnover share of which rose by 7 percentage points to 13% and 16% respectively.

The 64 percentage point increase in direct debits/credit transfers for household services

(to 77%) and a simultaneous 42 percentage point decline in cash payments are particularly noteworthy. One possible reason for this could be the change in legislation regarding household services and mini-jobs that has been in place since 2016.[20] In addition, when it comes to leisure activities, respondents likewise made the larger shares of their expenditure by credit card, direct debit or credit transfer. The share of turnover accounted for by these payment instruments climbed 33 percentage points to 50%, whereas the share attributable to cash declined to 36% (down 37 percentage points). The fact that many traditional cash-intensive leisure activities such as fairs and amusement parks were greatly reduced during the observation period on account of the pandemic may have played a role here.

20 https://esth.bundesfinanzministerium.de/esth/2016/C-Anhaenge/Anhang-17a/inhalt.html. Last accessed on 22 June 2022.

Factors in the increased use of debit cards – background

The costs for girocard processing have decreased on average since 2015 following a cap on interchange fees and minimum payment amounts in card business being repealed through an EU Regulation, coupled with an agreement made between the German banking industry and the Federal Cartel Office.[21] This created an economic incentive for retailers where customers have a lower total transaction amount on average to enable card payments too, and thus to acquire a payment terminal. Furthermore, technical advances have been gradually making contactless payment by girocard possible since 2017. The advantage of this payment method over cash or inserting a card and entering a PIN is that the payment process is much quicker.[22] Both factors laid the foundation for an increased use of debit cards. The pandemic has further accelerated the use of cards for payment. For one thing, citizens have, overall, wanted to spend less time in stores since its onset. For another, customers in stores were frequently requested to use cashless or contactless payment methods. Moreover, respondents reported that paying without cash has become easier since the pandemic (see Figure 4.2.4).

21 Regulation (EU) 2015/751 of 29 April 2015 on interchange fees for card-based payment transactions. Press releases of the Federal Cartel Office of 8 April 2014 and 30 March 2015 including case report B4-94/14.

22 GfK-Messung verschiedener Bezahlmethoden im Lebensmitteleinzelhandel für die EURO Kartensysteme, 2017. See Hierl, L./Pak, J. (2019) Payment 2019 – Komparative Studie zur Transaktionsdauer von Zahlungen, Schriftenreihe Handelsmanagement, Duale Hochschule Baden-Württemberg Heilbronn.

Share of payment instruments by turnover, broken down by place / purpose of payment

Fig. 5.2.4

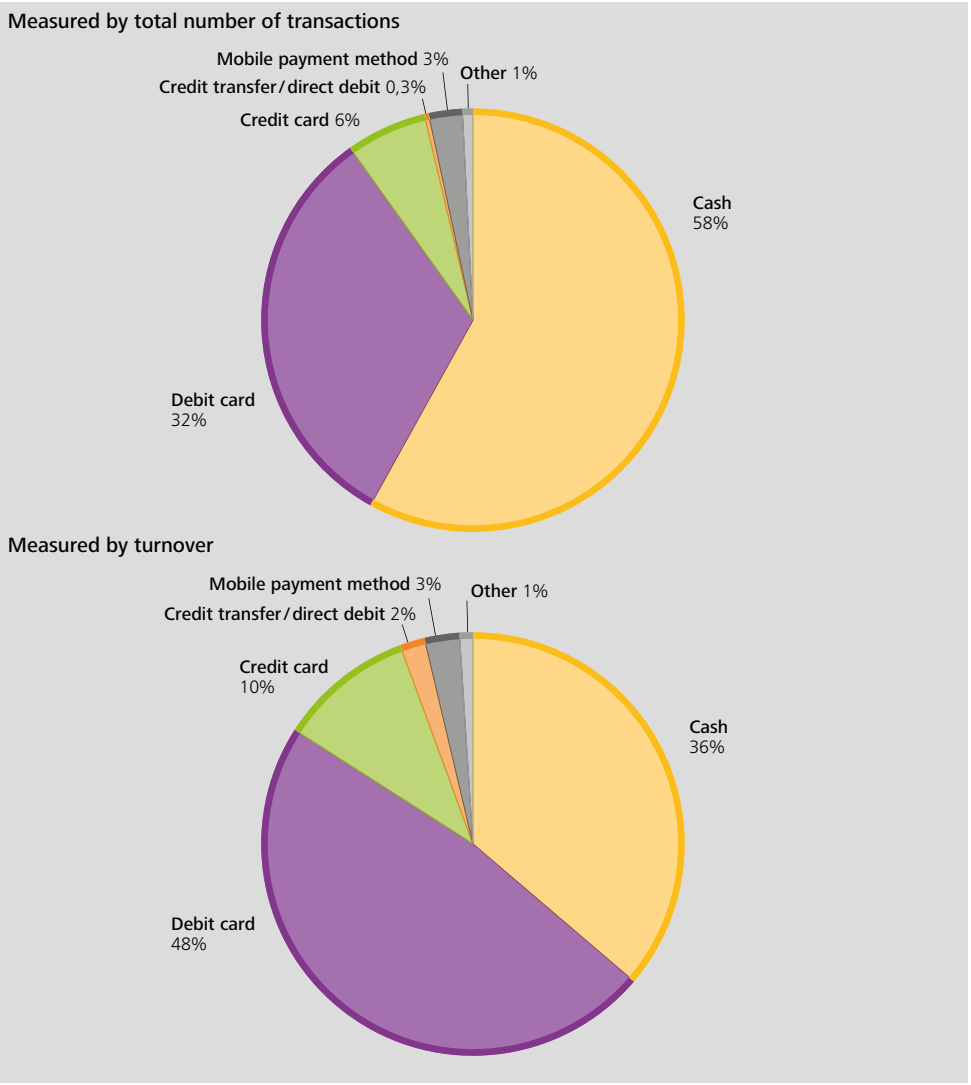
i%, accorrding to payments diary

Basis: All transactions (n=15,482, total value: € 605,251).
Deutsche Bundesbank

Share of payment instruments used in retail outlets

Fig. 5.3.1

%, according to payments diary



Basis: Transactions at retail outlets, petrol stations and pharmacies (n=9,153, value €285,740).
Deutsche Bundesbank

5.3. Use of payment instruments in retail outlets and online and potential impact of the coronavirus pandemic

The analysis of payment locations in Chapter 5.1 shows a clear **shift in the expenditure structure** when comparing 2017 and 2021. While buyers at retail outlets have a choice between cash and cashless payment methods, it is virtually impossible to pay for online purchases in cash. Alongside other factors, therefore, the steep rise in turnover in online trade (up 18 percentage points) made a major contribution to the decline in cash as a share of total turnover and (to a lesser extent) as a share of all recorded transactions. At the same time, card payments, in particular, gained ground (see Chapter 5.2).

In order to better understand the **changes in payment behaviour** in greater detail, payments at retail outlets (for day-to-day retail purchases and retail purchases of durable goods, payments at petrol stations and pharmacies) and payments for online purchases are examined separately below. The effects of the coronavirus pandemic on these payment locations are explained in greater detail in the "Background" boxes on p. 33 and p. 34.

Looking solely at transactions at retail outlets, **cash** is the most frequently used means of payment, making up 58% of transactions. Its share of turnover amounts to 36% (see Figure 5.3.1). Even from this perspective, though, there is a significant decline compared with 2017. The share of transactions decreased by 14 percentage points (2017: 72%) and the share of turnover by 12 percentage points (2017: 48%).

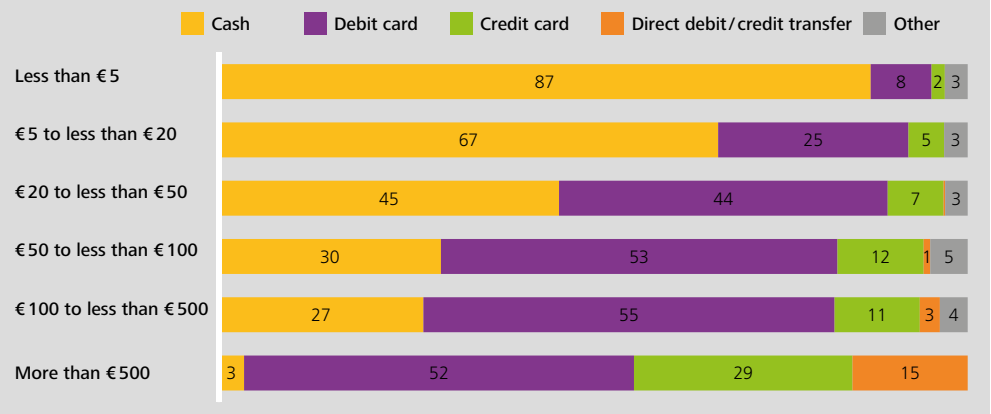
The turnover share of debit cards, the most frequently used **cashless means of payment** at retail outlets, rose accordingly. They were used for one-third of payments (32% of transactions), which was significantly more often than in 2017 (up six percentage points). Its share of turnover rose by three percentage points to 48%.

Chapter 5.2 and Figure 5.3.2 show that as purchase amounts increase, the cash share of these amounts declines. Thus the decline in cash use can be accounted for, at least to a large extent, by coronavirus-related purchases in larger transaction amount categories than before.

Share of payment instruments used at POS broken down by transaction amount categories

Fig. 5.3.2

%, according to payments diary, measured by total number of transactions

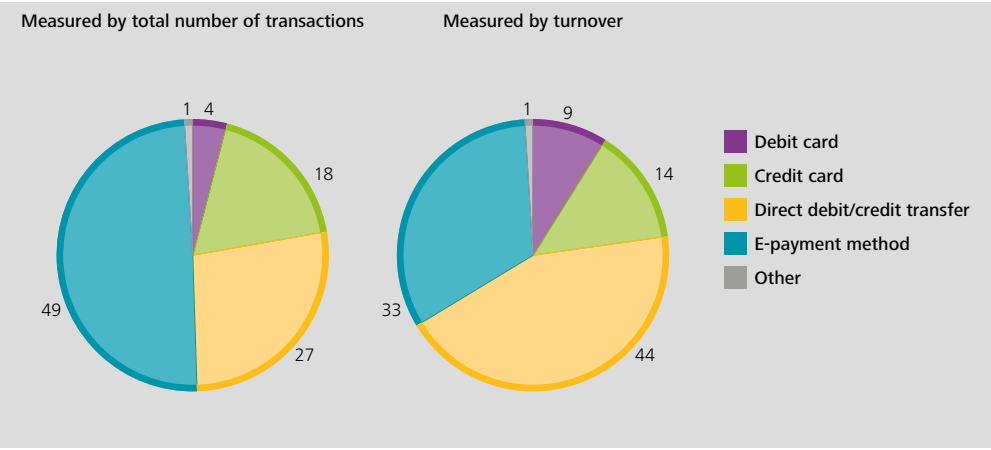


Basis: Transactions at POS (n=9,153, value=€285,740). May fail to sum to 100 due to rounding.
Deutsche Bundesbank

Share of payment instruments used online

Fig. 5.3.3

%, according to payments diary



Basis: Online transactions (n=1,567, value=€142,603). May fail to sum to 100 due to rounding.
Deutsche Bundesbank

3% of all transactions and turnover are attributable to mobile payment methods. Accordingly, traditional means of payment are still the leading method of making payments at retail outlets, whereas mobile payment methods have not yet come into widespread use.

Figure 5.3.3 focuses solely on payment behaviour for **internet purchases**. These are almost exclusively paid for with cashless payment instruments.[23] Measured by **transaction**, there have been some clear shifts compared with the previous year. The share accounted for by e-payment methods (such as PayPal, Klarna, Amazon Pay and giropay/paydirekt) rose by 11 percentage points. The fact that the share measured by turnover did not increase to the same degree indicates that smaller amounts were frequently paid using e-payment methods. They were predominantly used for sums up to €50 (see Figure 5.3.4). While this item rose, it was only at the expense of the shares of traditional direct debits and credit transfers.

Overall, the **share of e-commerce payments accounted for by cards** remained the same as in the previous year. As before, 4% of payments were made by debit card, and 18% by credit card. Previously, it was seldom possible to use the girocard online. This has since become an option in conjunction with certain wallets. Other debit cards from international schemes can be used for online payments; however, use of such cards was not yet widespread in the past (Chapter 4.2).

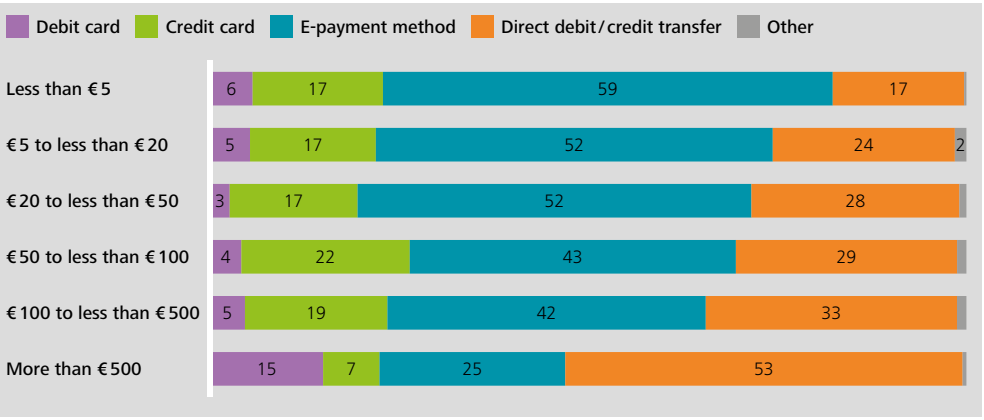
Looking at **shares of turnover**, the relationship between e-payment methods and direct debits/credit transfers is almost reversed. While the value share of e-payments remained almost the same at 33%, the share of direct debits/credit transfers rose on 2020 by 17 percentage points to 44%. To the same extent, fewer payments were made by card. Transactions exceeding €500 had a particularly sizeable impact on the shift in payment instrument shares: while credit cards were used to purchase big-ticket items online in 2020, participants in the 2021 study said they chose to pay by direct debit or credit transfer (see Figure 5.3.4).

23 At least one fintech solution exists that also makes online cash payments possible. When making purchases, customers receive a barcode with the payment amount, which can be paid in cash at a partnering enterprise.

Share of payment instruments used online broken down by transaction amount categories

Fig. 5.3.4

%, according to payments diary, measured by total number of transactions

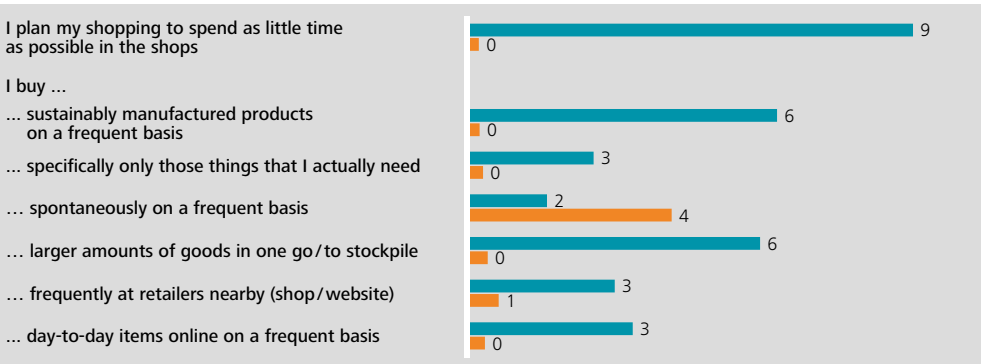


Basis: Respondents with at least one online transaction (n=1,567, value=€142,603). May fail to sum to 100 due to rounding.
Deutsche Bundesbank

Change in consumption behaviour since onset of COVID-19

Fig. 5.3.5

%, as reported by respondents



Basis: All respondents in split B (n=2,928). Question: Thinking about your shopping behaviour when you go shopping for day-to-day retail purchases, e.g. food, hygiene products or other similar items, please state for each of the following statements whether it has been true for you for some time, whether it has only been true since the start of the coronavirus pandemic, whether it is no longer true since the start of the coronavirus pandemic, or whether it has not been true for you for some time.
Deutsche Bundesbank

Looking at age groups, it can be seen that cards and direct debits/credit transfers account for the largest value share of the 35-44 age group's internet purchases, at 81% (see Figure A.5.3.4). This can be explained by high outgoings as well as familial and occupational demands (see Chapter 5.2). Buyers aged 65 and above are the group with the second-highest share of card payments and direct debits/credit transfers (75%). This coincides with the fact that they use e-payment methods the least frequently. For this age group, confidence in such methods, which can be used in other places of payment, too, presumably also plays a role in the choice of payment instrument.

Retail outlet purchases during and after the coronavirus pandemic – background

Overall, the coronavirus pandemic has had a substantial impact on consumption behaviour. For instance, 9% of respondents stated that since the start of the pandemic, they have planned their shopping so as to spend as little time as possible in stores (see Figure 5.3.5). 6% of respondents also stated that they stockpile larger amounts of goods. Whether or not the propensity to stockpile observed in particular during the lockdowns will continue once the pandemic abates remains to be seen. Aside from the aforementioned changes in purchasing behaviour, COVID-19 appears to have raised public awareness of sustainable consumption: 6% of respondents stated that they have purchased sustainably produced goods more frequently since its onset.

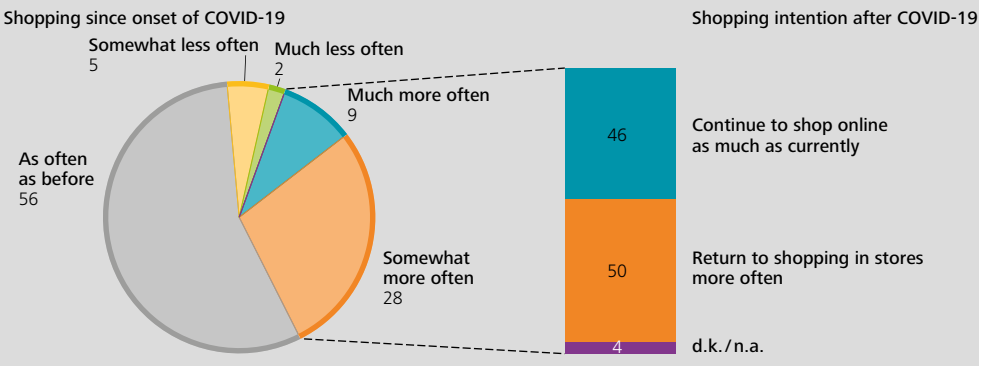
The changes in consumption behaviour caused by the coronavirus pandemic were already examined in the 2020 payment behaviour study.[1] Changes in purchasing habits identified in 2020 have continued in the same way in 2021. This suggests that these trends, and therefore also the changed payment habits, will stabilise further in the near future.

1 See https://www.bundesbank.de/resource/blob/858022/39ffce4b91be59675121ed29b25ac277/mL/zahlungsverhalten-in-deutschland-2020-data.pdf, p. 39. Last accessed on 22 June 2022.

Internet purchases compared to before and after COVID-19

Fig. 5.3.6

%, as reported by respondents



Basis: Respondents who make purchases online (n=4,757). Question: Do you shop online more or less often in comparison to two years ago, prior to the coronavirus pandemic? I shop online ...

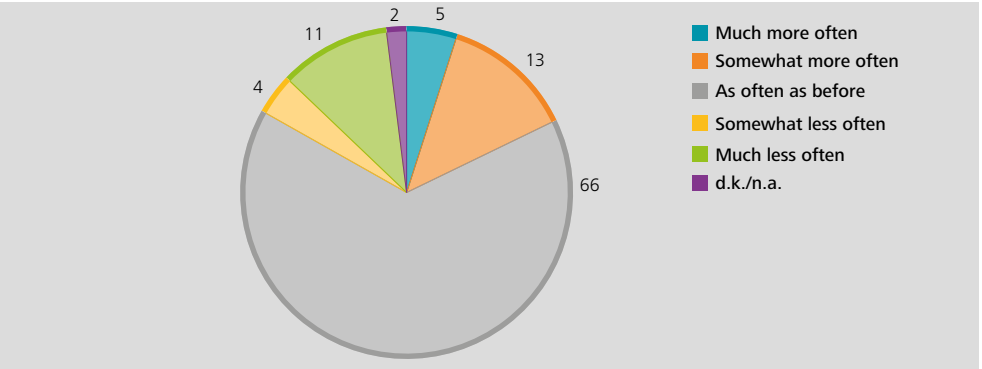
Basis: Respondents who shop online somewhat/much more frequently than before the coronavirus crisis (n=1,772). Question: Once the coronavirus pandemic has been overcome, will you ...

Deutsche Bundesbank

Use of subscription services compared to before COVID-19

Fig. 5.3.7

%, as reported by respondents



Basis: Respondents in subgroup B who make purchases online (n=2,404). May fail to sum to 100 due to rounding. Question: These days, many everyday necessities or the use of media such as films, music or games can be obtained online in the form of regular subscriptions. In comparison to two years ago, i.e. prior to the coronavirus pandemic, do you use these subscriptions more or less often?

Deutsche Bundesbank

Online purchases during and after the coronavirus pandemic – background

The **coronavirus pandemic also led to an increase in online shopping** (see Figure 5.3.6): 37% of respondents stated that they had used the internet for their purchases much more frequently or somewhat more frequently since the pandemic, whilst only 7% indicated that they used it less. This is also clearly reflected in the share of online purchases, as illustrated by Figure 5.1.1. When asked about their planned **purchasing habits after the coronavirus pandemic**, half of the respondents indicated that they want to shop at retail outlets more frequently again; meanwhile, 46% want to continue shopping online as much as since the start of the pandemic.

Figure A.5.3.1 shows that women and younger age groups, in particular, shop online more often; meanwhile, 30% of the over-65s also shop online. The share of individuals who shop online more frequently continued to rise in line with household income, standing at 29% for households with a net household income of up to €1,500 and 42% for respondents with a net household income of €4,500 and above. Socio-demographic differences appear with regard to purchasing habits after the coronavirus pandemic, too: while half of the male respondents want to continue shopping online as much as during the pandemic, this only applies to 42% of female respondents, the majority of whom lean towards shopping in person (see Figure A.5.3.2). Similar behaviour can be seen in the age group 45+, the majority of whom tend to shop in-store.

Amongst others, **subscription-based** business models such as streaming services for video, music or games profited from purchases shifting to the internet on account of the coronavirus pandemic. 18% of respondents stated that they use subscriptions somewhat or much more often than prior to the pandemic. However, two-thirds of those surveyed reported that their frequency of subscription use had not changed, and it even decreased for a further 15% of respondents (see Figure 5.3.7). Furthermore, Figure A.5.3.3 shows that respondents in the younger age groups up to 44 years as well as those with a net household income exceeding €4,500 are significantly more likely to make greater use of

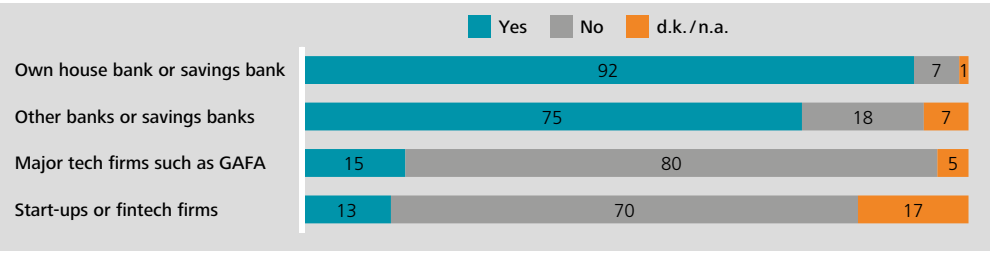
subscription offers. A shift in one-off payments at the point of sale to subscription models on the internet may bring about long-term changes in this group's payment behaviour.

Overall, it can be seen that although more purchases are being made in person again on the back of the increasing normalisation of the pandemic situation, there will not be a full return to pre-pandemic purchasing habits.

Responsible handling of payment data

Fig. 6.1.1

%, as reported by respondents



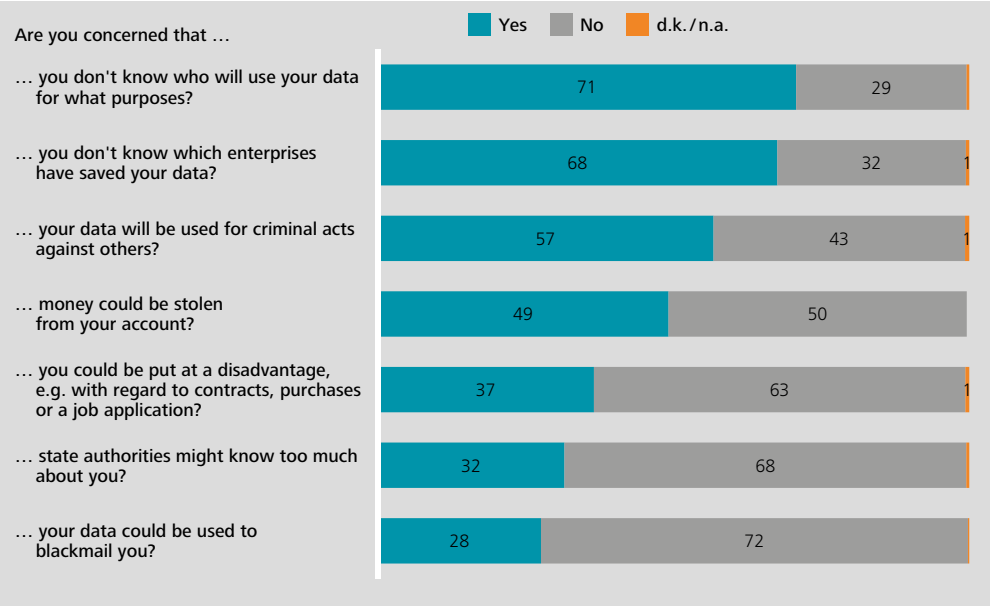
Basis: Respondents in subgroup B (n=2,928). Question: I am now going to name various institutions. Do you believe that they handle your payment data responsibly?

Deutsche Bundesbank

Concerns about disclosure of personal data

Fig. 6.1.2

%, as reported by respondents



Basis: Respondents in subgroup B (n=2,928). May fail to sum to 100 due to rounding. Question: If you consider the protection of your personal data, including photos, are you concerned that ...

Deutsche Bundesbank

6 Trends and outlook

6.1 Trust in data handling

Every time a payment is made via credit transfer, direct debit, card or card-based solution such as an e-payment or mobile payment method, payment data are processed electronically. Depending on the payment method and the access medium selected, different enterprises have access to this data. This raises the fundamental question of who the respondents **trust** to **handle these payment data** responsibly.

At 92%, the majority of respondents trust their own house bank/savings bank the most in this regard (see Figure 6.1.1), followed by other banks/savings banks (75%). However, there are major differences between the age groups: 89% of the group aged 18 to 24 also trust other banks/savings banks (see Figure A.6.1.1) almost as much as their own house bank/savings bank. In the case of the over-65s, this figure only comes to just under 64%. Looking at tech firms such as Google, Apple, Facebook or Amazon as well as start-ups and fintech firms, a similar gradation can be seen – albeit starting from a lower level: 15% of all respondents trust tech firms to handle payment data, followed by start-ups/fintech firms at 13%. Looking more closely at the age groups, however, it is those in the younger bands up to the age of 35, in particular, who place more trust in start-ups and fintechs, (trust in start-ups/fintech among those aged 18 to 24: 34%; among those aged 25 to 34: 25%).

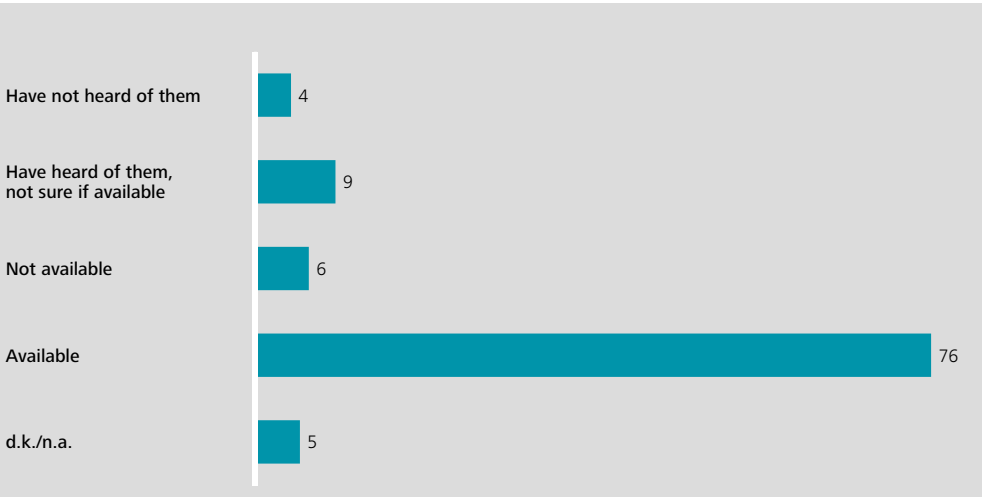
In addition, respondents were asked about their **concerns regarding the disclosure of personal data** (see Figure 6.1.2): 71% of respondents are worried about not knowing who is using their data; a similar share (68%) are concerned because they do not know which companies have stored their data. To alleviate these fears in the future, new, simple solutions may be needed that allow people to determine and authorise which personal data are transmitted to whom.

Respondents are also worried that personal data could be used for criminal purposes (57%) or that money could be stolen from current accounts (49%). 28% are concerned that personal data could be used for the purpose of blackmail. Bolstering consumer confidence through appropriate security measures thus remains important overall.

Access to SEPA instant credit transfers

Fig. 6.2.1

%, as reported by respondents

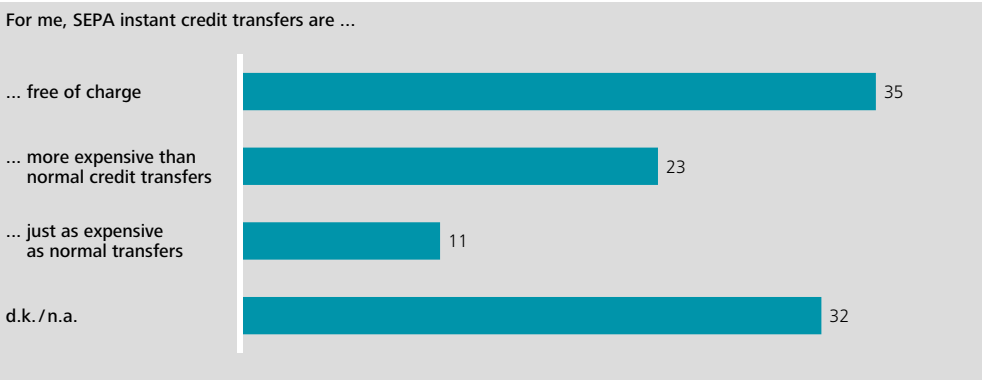


Basis: Online banking users (n=3,981). Question: A SEPA credit transfer can – after entering an IBAN – transfer money between bank accounts within seconds. Is this service currently available to you?
Deutsche Bundesbank

Costs of SEPA instant credit transfers

Fig. 6.2.2

%, as reported by respondents



Basis: Respondents with access to SEPA instant credit transfers (n=3,032). Question: Which statement applies to you?
Deutsche Bundesbank

6.2 Recent developments

Cashless payments are developing very dynamically, with digitalisation being one of the factors. However, changes in market expectations, often triggered by technological advances, also play a role. **SEPA instant credit transfers** are one such example. These are euro-denominated credit transfers that are based on Europe-wide SEPA standards and can be transferred from account to account in mere seconds.

For years now, digital communication such as text and voice messages has taken place in real time. A traditional SEPA payment, on the other hand, still usually takes one business day to be debited from the payer's account and credited to the payee.

Off the back of a decision made in 2014 by the Euro Retail Payments Board,[24] chaired by the European Central Bank, European payment service providers developed a standard for real-time payments. This has enabled payment service providers in Germany and the Single Euro Payments Area (SEPA) to provide their customers with the new range of services since 2017.

These services are now widespread, with more than three-quarters of respondents confirming that they have access to them, as shown in Figure 6.2.1. 6% said they were unable to use instant credit transfers, while another 9% were unsure. A further 9% of respondents replied that they were not aware of this service at all.

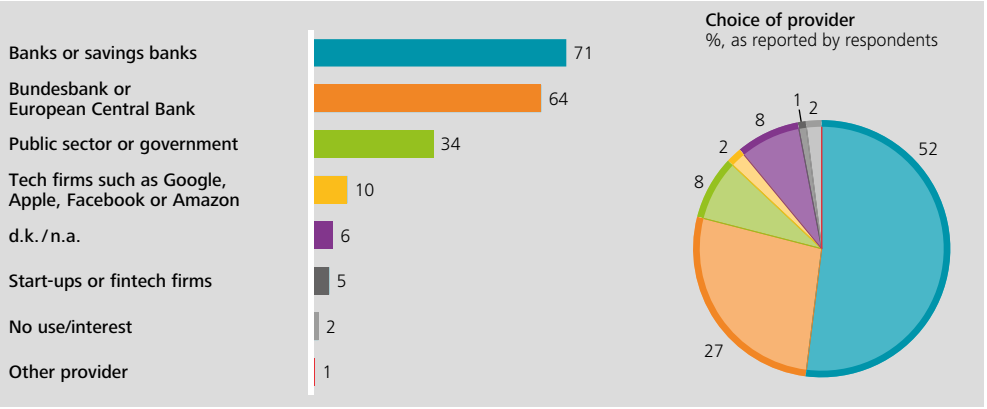
To be able to send and receive instant credit transfers, banks and other payment service providers had to make substantial investments in their infrastructure in some cases. Some of these **costs** are passed on to customers. In 2021, for instance, 23% of respondents reported having to pay more for real-time payments than for standard credit transfers (see Figure 6.2.2). At the same time, 32% of respondents did not make any comment. For more than one-third (35%) of respondents, this payment method is already free of charge, with another 11% reporting that it costs the same as a normal transfer.

24 ERPB. Press release of 9 December 2014, available at: https://www.ecb.europa.eu/press/pr/date/2014/html/pr141209.de.html. Last accessed on 22 June 2022.

Provision and possible use of a European payment method

Fig. 6.2.3

%, as reported by respondents, multiple answers possible



Basis: Respondents in subgroup B (n=2,928). Bar chart question: If you could choose, who would you like to offer such a payment method so that you would use it?

Pie chart question: From which provider would you be most likely to actually use such a method?

Deutsche Bundesbank

However, instant credit transfers are also just one step in the development of cashless payment transactions. For example, the Eurosystem's retail payments strategy[25] outlines what efficient, competitive and secure payments should look like in the future. The aim is for consumers to be able to pay as easily and securely throughout the euro area as they do in their home country – whether via smartphone, card, internet or POS. SEPA instant credit transfers could form the basis for a new service such as this. But who should provide a procedure of this kind in the future?

The question for this topic was split into two parts. First, respondents were asked via multiple choice which providers should make such a method available. Of these, respondents were then asked to select the providers from which they would actually use the method (see Figure 6.2.3). In both cases, there is a clear preference for banks and savings banks. 71% of the respondents indicated that a **European payment method** of this kind should be offered primarily by them; 52% would then also opt for the services provided by banks and savings banks. 64% would accept the Bundesbank or the European Central Bank as potential providers of such a system.[26] When asked to choose a provider, a total of 27% of respondents opted for one of the two central banks. 34% of respondents said they would consider a system provided by the public sector or the government, but only 8% indicated that they would actually use it. Tech firms such as Google, Apple, Facebook and Amazon, or start-ups and fintech firms would only be an option for relatively few respondents (10% and 5% respectively).

The respondents therefore consider a European payment procedure to be a task for banks and savings banks. Ultimately, they are the ones that set up an account for members of the general public, thus providing access to banking and payment services. They remain highly trusted when it comes to dealing with payment data (see Section 6.1).

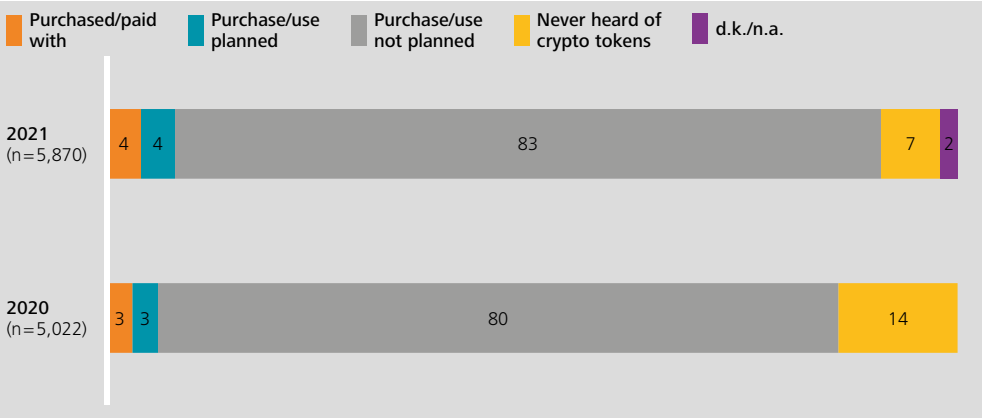
25 The Eurosystem's retail payments strategy, available at: https://www.ecb.europa.eu/paym/integration/retail/retail_payments_strategy/html/index.de.html. Last accessed on 22 June 2022.

26 The possible answers were only separated into "Bundesbank" and "European Central Bank" due to the fact that older groups of the population are more familiar with the former. The technical basis for such a procedure would be developed by the Eurosystem as a whole. The task of marketing it to customers, on the other hand, would fall to banks, savings banks and other payment service providers.

Potential purchase and use of crypto tokens

Fig. 6.2.4

%, as reported by respondents



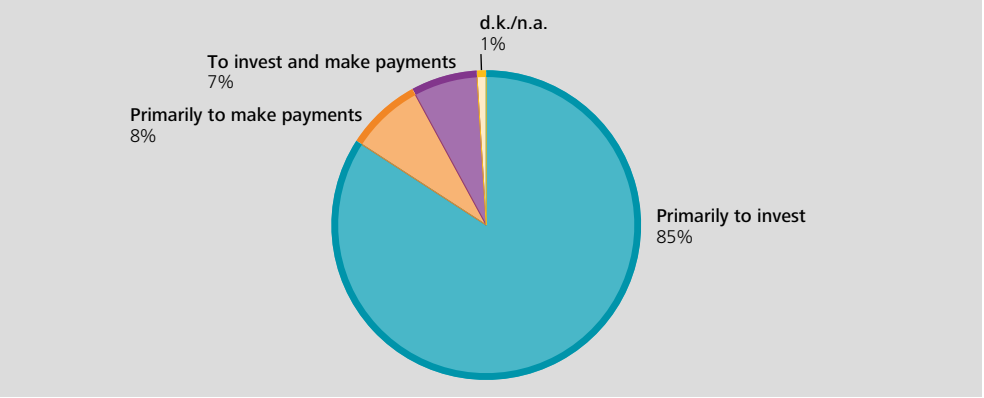
Basis: All respondents. Question: Crypto tokens such as Bitcoin have attracted regular attention over the past few years. Which of the following statements applies to you personally?

Deutsche Bundesbank

Primary use of crypto tokens

Fig. 6.2.5

%, as reported by respondents



Basis: Respondents who have already purchased or paid with crypto tokens (n=250). May fail to sum to 100 due to rounding. Question: You stated that you have purchased or used crypto tokens for payments in the past. Can you tell us the main reason for this?

Deutsche Bundesbank

Background on crypto tokens

In addition to traditional payment methods such as credit transfers, direct debits or cards, digital assets known as **crypto tokens** (e.g. Bitcoin) can, in principle, be used to make payments. The number of citizens who have never heard of crypto tokens halved to 7% in 2021 compared with 2020 (see Figure 6.2.4). However, only 4% of respondents have ever bought or paid with Bitcoin or similar tokens. This is a very small increase of one percentage point compared with 2020, and one that starts from a low level in any case. The vast majority of respondents (83%) do not intend to purchase or use crypto tokens either; only 4% are planning to do so. Overall, **reservations towards crypto tokens** have gone up by three percentage points compared to the 2020 study.

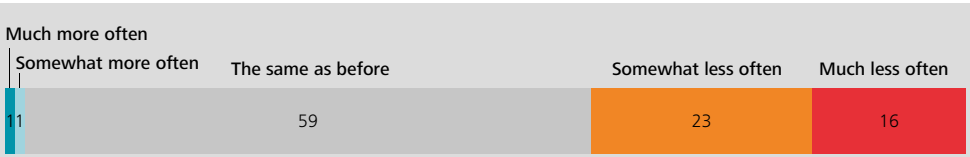
In terms of socio-demographic differences, it is striking that twice as many women as men have never heard of crypto tokens (10% vs. 4%). Men have also bought or paid using crypto tokens much more frequently. The share of potential users/buyers is also higher for men than for women (5% vs. 2%; see Figure A.6.2.2). Moreover, the topic of crypto tokens seems to be of particular interest to younger citizens. For example, in the age groups 18 to 24 and 25 to 34, 18% of respondents indicate that they have already bought or paid using crypto tokens or are planning to do so. Among those aged 35 to 44, the share still comes to 13%, after which interest in the topic declines significantly. The situation is similar in relation to income: 13% of the study participants with a net household income of €4,500 or more report that they have already purchased or paid using crypto tokens or are planning to do so. In the group with a net household income of over €3,000 and under €4,500, the share is 8%.

The question as to the **main use of crypto tokens** reveals that their role as an **asset** clearly predominates (see Figure 6.2.5). 85% of respondents indicate that they use crypto tokens to invest; only 8% use it as a means of payment. Bitcoin and similar tokens are therefore seen **primarily as a form of investment and not as a means of payment.**

Use of cash since the start of the pandemic

Fig. 6.3.1

%, as reported by respondents



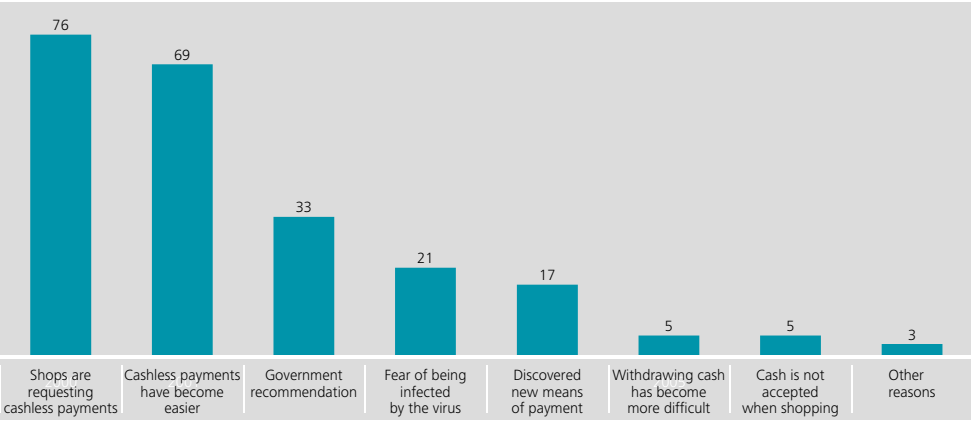
Basis: All respondents (n=5,870).Question: Think back to just over two years ago, before the coronavirus pandemic. Since then, how has your cash use changed compared with your use of cashless payment methods in physical locations, such as in shops or restaurants?

Deutsche Bundesbank

Reasons for using cash less frequently since the pandemic

Fig. 6.3.2

%, as reported by respondents, multiple answers possible



Basis: Respondents who have been using cash less frequently since the start of the pandemic (n=2,296). Question: Why do you now use cash less often when making payments in physical locations than before the coronavirus pandemic?

Deutsche Bundesbank

SV(ZBS)0049A.Chart

6.3 The future of cash

Between 2017 and 2021, there was a marked decline in the share of cash payments and cash withdrawals for day-to-day purchases. A general trend toward electronic means of payment has been observed since the series of studies began in 2008. However, the **pandemic** has led to an additional **reduction in cash payments**, as the records from the payment diaries show (see Tables 5.2.1 and 5.2.2 in Chapter 5). In addition, 23% of respondents said that they had used cash somewhat less often since the start of the pandemic, and 16% said that they had used it much less often. 59% describe their payment behaviour as unchanged, with a small proportion (2%) paying more frequently in cash (see Figure 6.3.1).

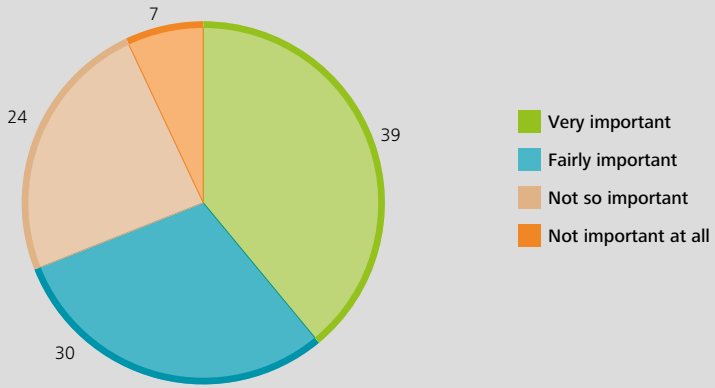
People who reported using **cash less frequently** were then asked **why**. Although one-fifth of respondents fear becoming infected with the coronavirus when using cash (21%), social factors outweigh this by far. For instance, more than three-quarters of the respondents are responding to retailers' requests to use cash less often and to choose cashless payment methods (76%). In addition, one-third feels that the government is asking them to pay less often using cash (33%). However, the underlying conditions for cashless means of payment are also an important factor, with 69% reporting that payment using cashless methods has become easier and 17% of them discovering new methods of payment. By contrast, access to cash and the acceptance of cash by traders do not play a decisive role (5% each) (see Figure 6.3.2).

How **payment behaviour** will develop **after the end of the pandemic** is still unclear. When asked, only 11% of those who are currently paying less often in cash want to start using more cash again after the pandemic. By contrast, 88% want to maintain their current behaviour. A return to a significantly higher volume of cash payments therefore seems unlikely. However, if the pandemic measures are completely abolished, consumption behaviour could change again. For example, more frequent purchases in stores and fewer internet orders could lead to a renewed increase in the share of cash payments. It should also be noted that, before the pandemic, people mainly paid using cash in situations involving personal contact (e.g. at restaurants, in payments between individuals and for leisure activities). If social life returns to normal, the use of cash in these areas could also rise again. Irrespective of this, the vast majority of respondents believe that **cash will remain indispensable as a means of payment in the future**. 69% answered that being able to pay in cash is very important or fairly important (see Figure 6.3.3).

Importance of cash use

Fig. 6.3.3

%, as reported by respondents



Basis: All respondents (n=5,870). Question: How important is it for you to have the option of using cash?
Deutsche Bundesbank

In conclusion, cash remained the most frequently used means of payment in 2021. However, technological progress and the increasing digitalisation of shopping opportunities and payment methods are having an impact on the use of cash. This trend was accelerated by the coronavirus pandemic, with the surge in internet shopping, requests to pay using cashless payment methods in stores and the simplification of electronic payment methods playing a key role. Nevertheless, the vast majority of the population do not want to do without cash. As before, a large share (of almost one-third) even prefers to pay in cash. Many see cash as **a reliable means of payment** that protects their privacy and provides a good overview of their spending. Furthermore, the fact that cash ownership among the general public is still fairly high suggests that even if electronic forms of payment are used for the most part, people continue to hold cash as a back-up. Cash is the only physical means of payment and thus can be used without intermediaries. This means that cash can largely be used even in the event of power outages or problems with the technical infrastructure. Besides this, the group of people without access to cashless payment methods, such as children or individuals without a bank account, should not be overlooked. In line with the principle of inclusion, cash is needed to ensure that all members of the public in Germany are able to participate in economic life. Against this background, it can be assumed that the desire for **unrestricted use** of cash and an **adequate supply of cash** will continue to exist in Germany in the future.

6.4 Role of the Bundesbank

Together with the European Central Bank and the other Eurosystem central banks, the Bundesbank aims to ensure that euro cash remains available and generally accepted as a means of payment and store of value in the future. At the same time, it safeguards safe and efficient cashless payments. Consumers are therefore free to select the means of payment of their choice at any time.

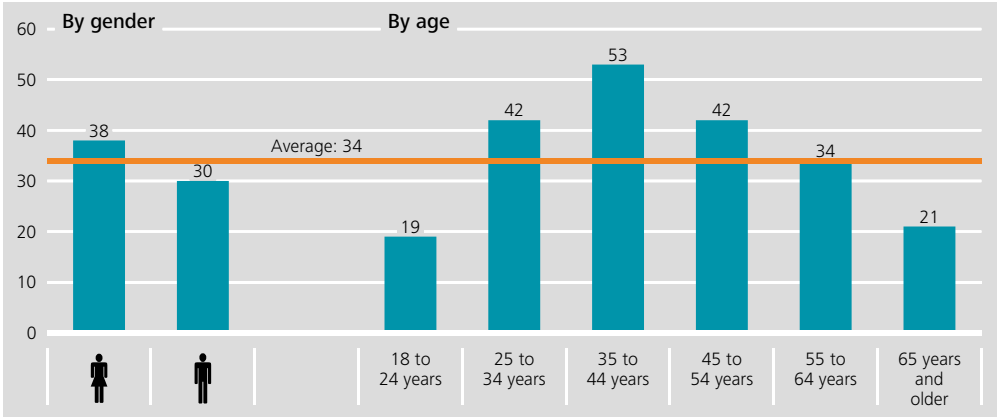
To be able to document the major changes in payments and the impact of technical and societal developments, the Bundesbank will continue to independently examine payment behaviour in Germany and present the results to the public.

Annex

Withdrawal of cash from a point of sale

Fig. A.3.2.1

%, as reported by respondents



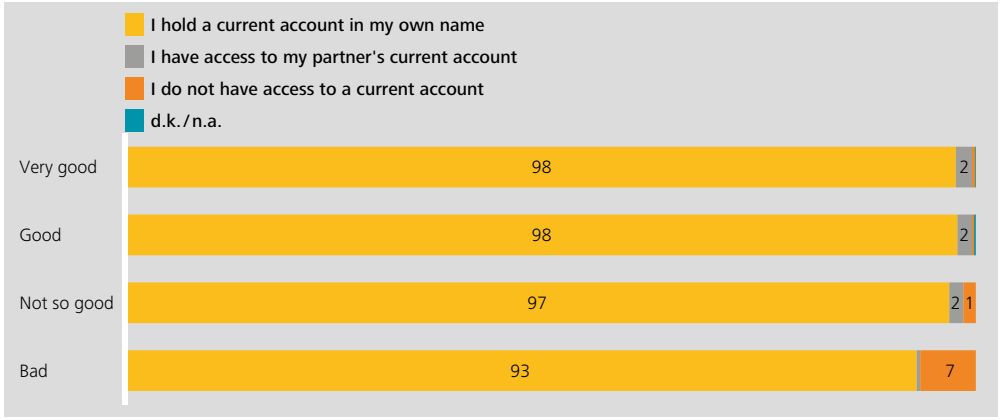
Basis: Respondents with access to a current account in subgroup A (n=2,919). Question: How often do you withdraw cash from an ATM/a bank counter/a point of sale?

Deutsche Bundesbank

Holding current account – by financial situation

Fig. A.4.1.1

%, as reported by respondents



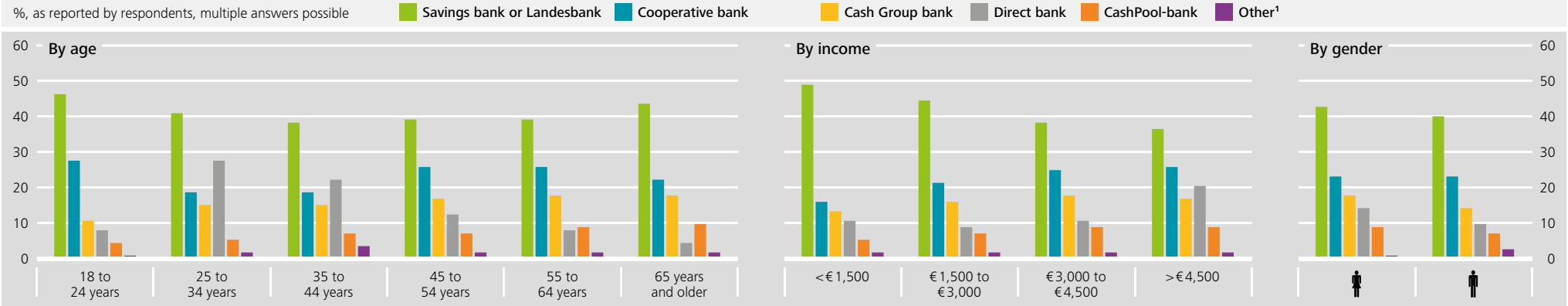
Basis: All respondents (n=5,870). May fail to sum to 100 due to rounding. Question: Do you hold one or more current accounts?

Deutsche Bundesbank

Distribution of current accounts by group of institutions – by age, income and gender

Fig. A.4.1.2

%, as reported by respondents, multiple answers possible



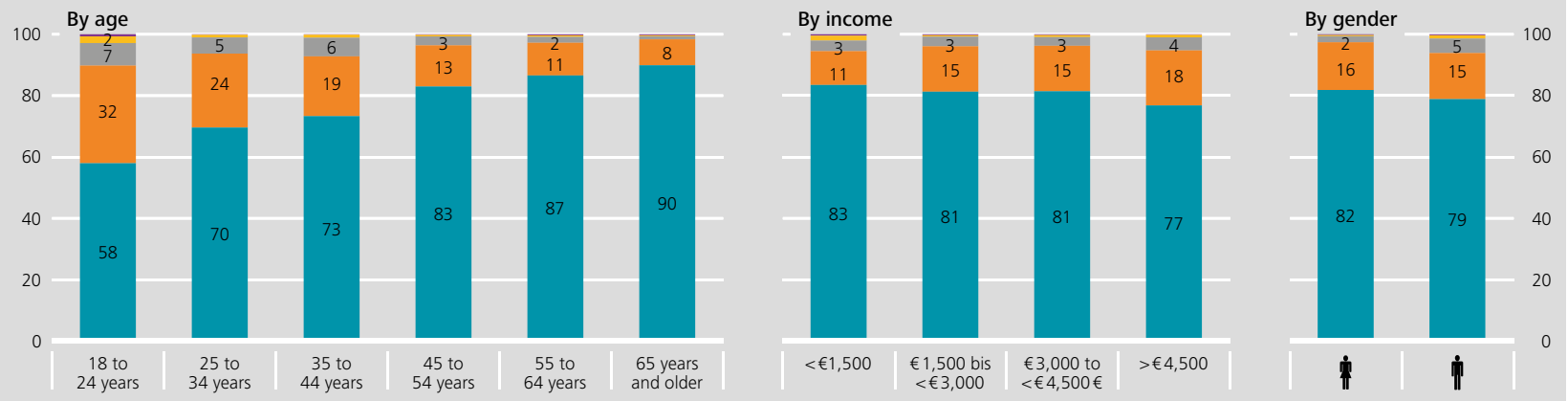
Basis: All respondents with access to a current account (n=5,826). Question: Where is this bank account or where are these bank accounts held? Multiple answers possible. **1** Including don't know/no answer.

Deutsche Bundesbank

Current accounts on internet platforms – by age, income and gender

Fig. A.4.1.3

%, as reported by respondents — Very unlikely; Fairly unlikely; Fairly likely; Very likely; d.k./n.a.



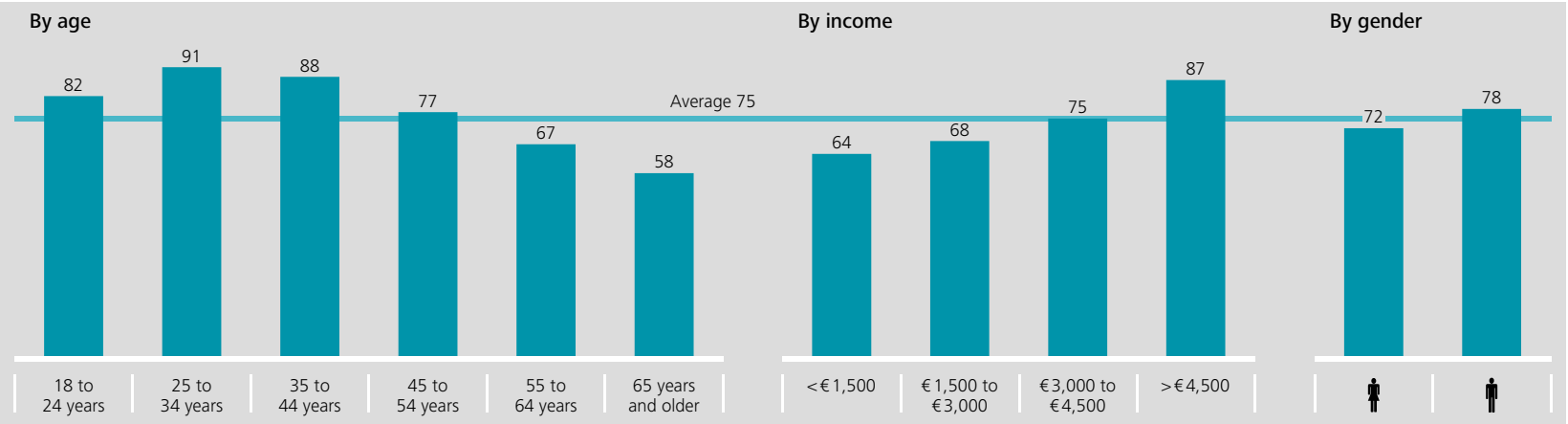
Basis: All respondents (n=5,870). May fail to sum to 100 due to rounding. Question: Could you see yourself holding a current account at Google/Apple/Facebook/Amazon [25% of the basis each] instead of at your bank?

Deutsche Bundesbank

Use of online banking – by age, income and gender

Fig. A.4.1.4

%, as reported by respondents



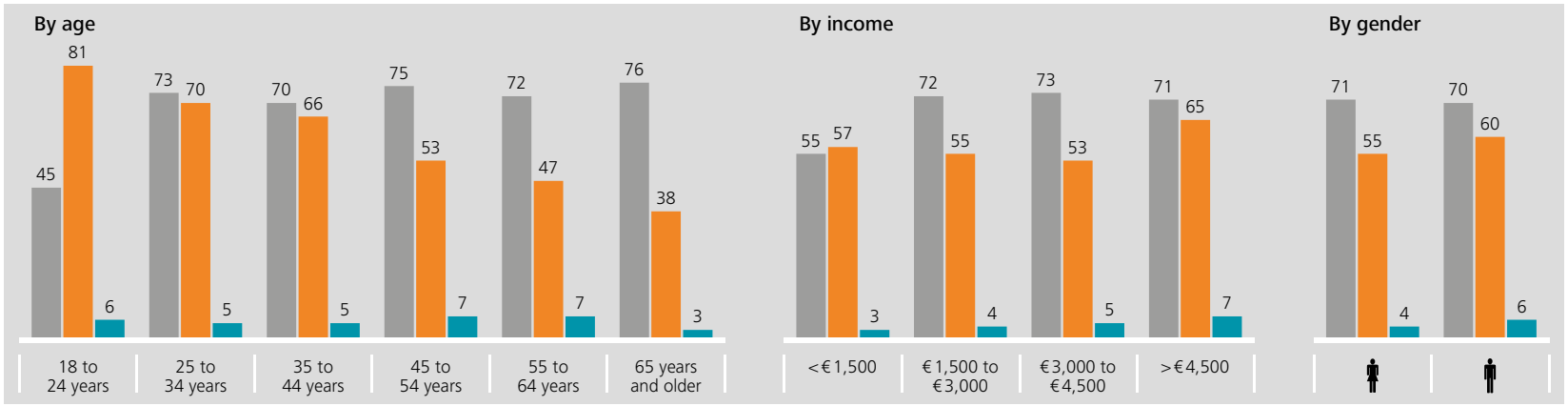
Basis: Respondents with access to a current account who have used the internet in the last three months (n=5,334). Question: Do you use online banking?

Deutsche Bundesbank

Online banking method – by age, income and gender

Fig. A.4.1.5

%, as reported by respondents, multiple answers possible



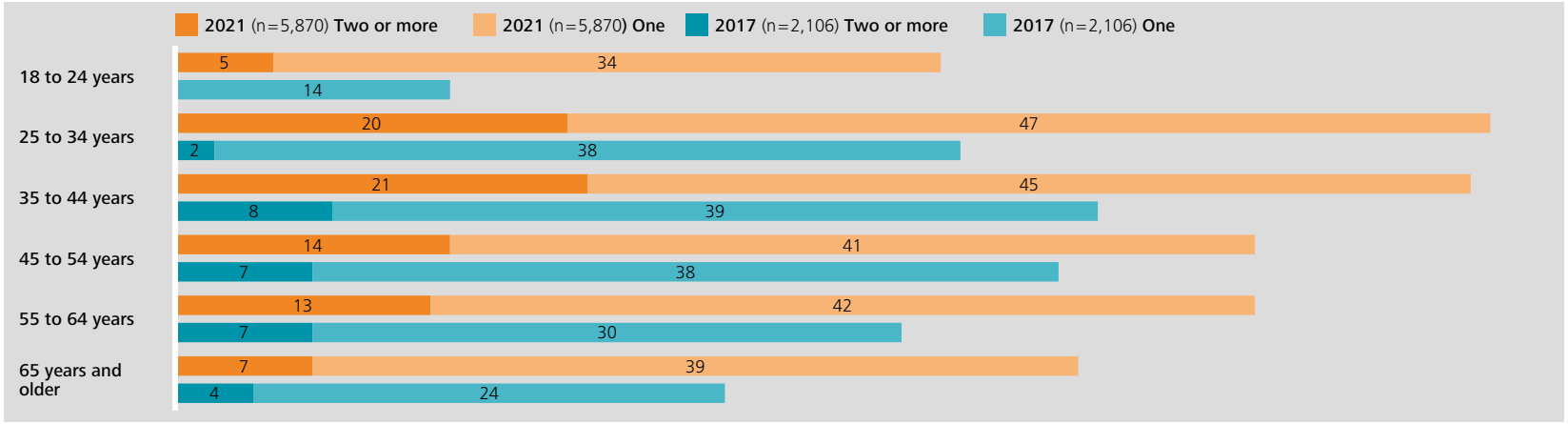
Basis: Respondents using online banking in subgroup B (n=2,019). Question: How do you conduct your banking? Do you use your bank's online banking website, your bank's online banking app or an online banking app not operated by your bank?

Deutsche Bundesbank

Number of credit cards by age

Fig. A 4.2.1

%, as reported by respondents



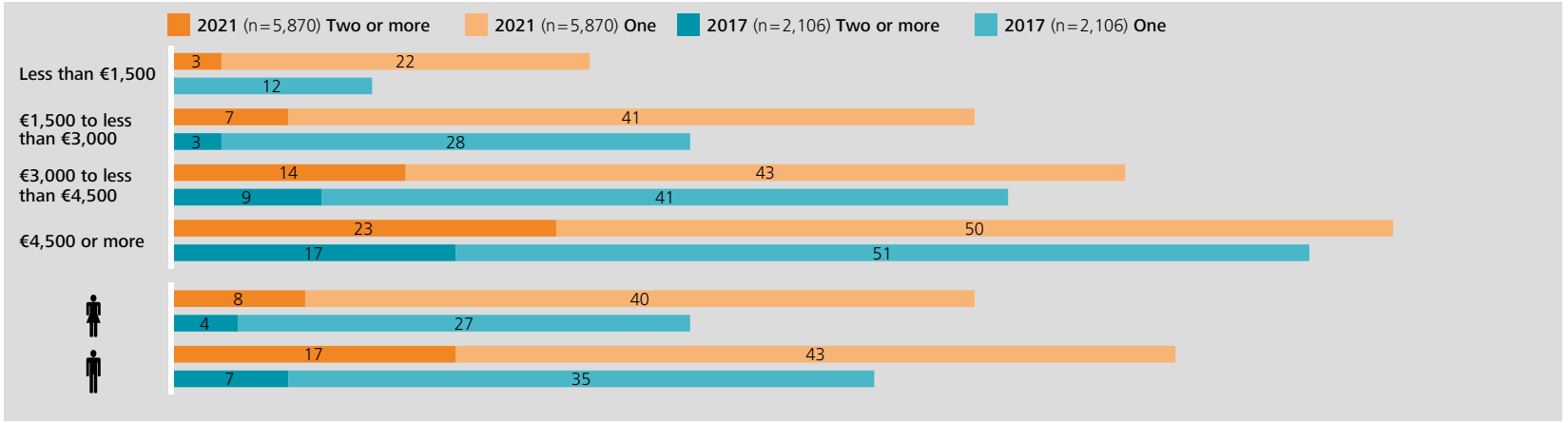
Basis: All respondents. Question: Which of the following payment cards do you own, and how many?

Deutsche Bundesbank

Number of credit cards by household income and gender

Fig. A.4.2.2

%, as reported by respondents



Basis: All respondents. Question: Which of the following payment cards do you own, and how many?

Deutsche Bundesbank

Number of customer cards with payment function by age, income and gender

Fig. A.4.2.3

%, as reported by respondents — One — Two or more

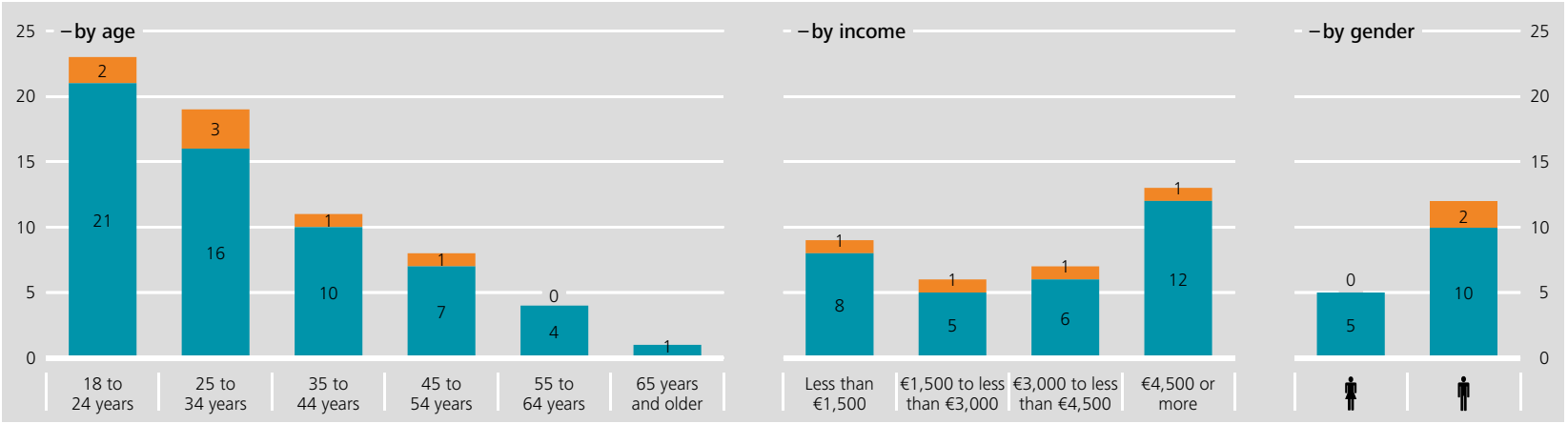
Basis: All respondents (n=5,870). Question: Which of the following payment cards do you own, and how many?

Deutsche Bundesbank

Number of canteen or stadium cards with payment function by age, income and gender

Fig. A.4.2.4

%, as reported by respondents — One — Two or more

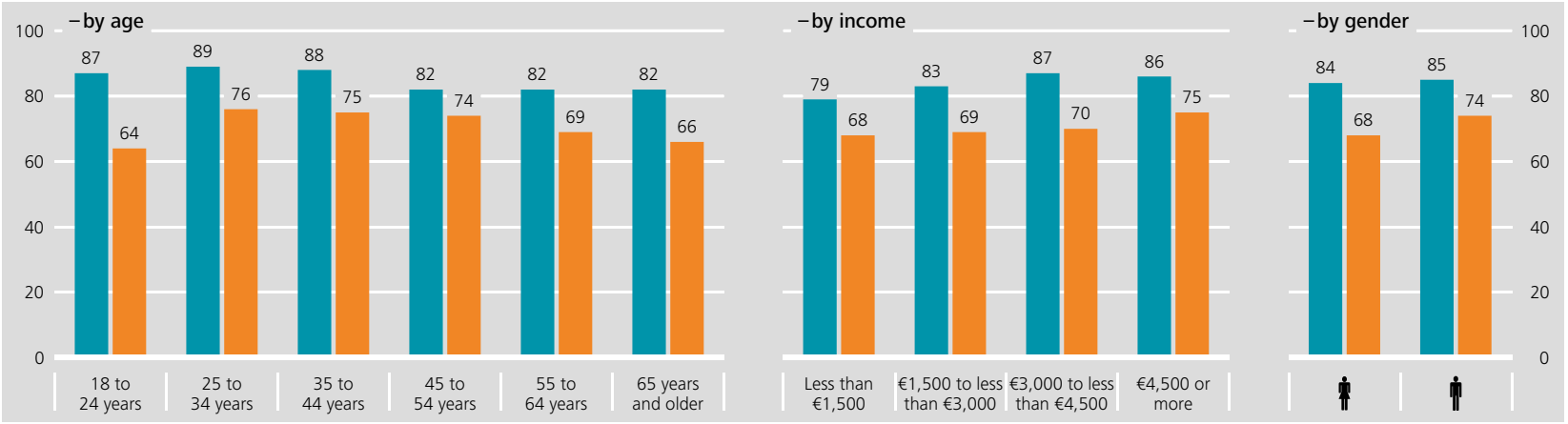


Basis: All respondents (n=5,870). Question: Which of the following payment cards do you own, and how many?
Deutsche Bundesbank

Use of contactless debit and credit cards by age, income and gender

Fig. A.4.2.5

%, as reported by respondents — girocards and other debit cards — Credit cards

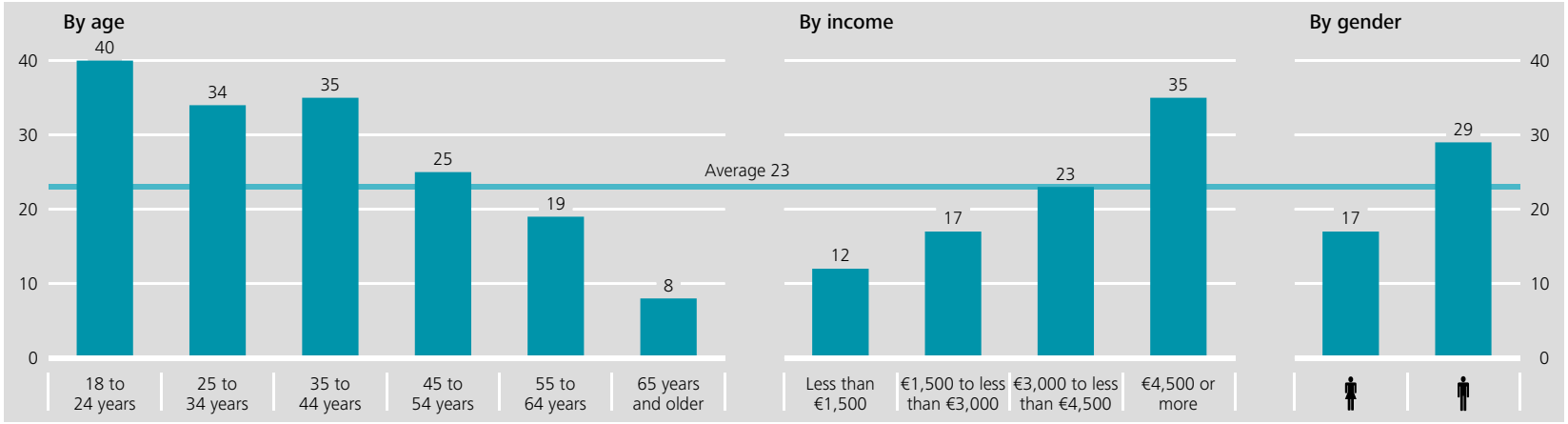


Basis: All respondents who own at least one contactless debit card (n=4,792)/ credit card (n=1,835). Question: Do you also use your card(s) to make contactless payments?
Deutsche Bundesbank

Debit or credit card registered in a payment app

Fig. A.4.2.6

%, as reported by respondents

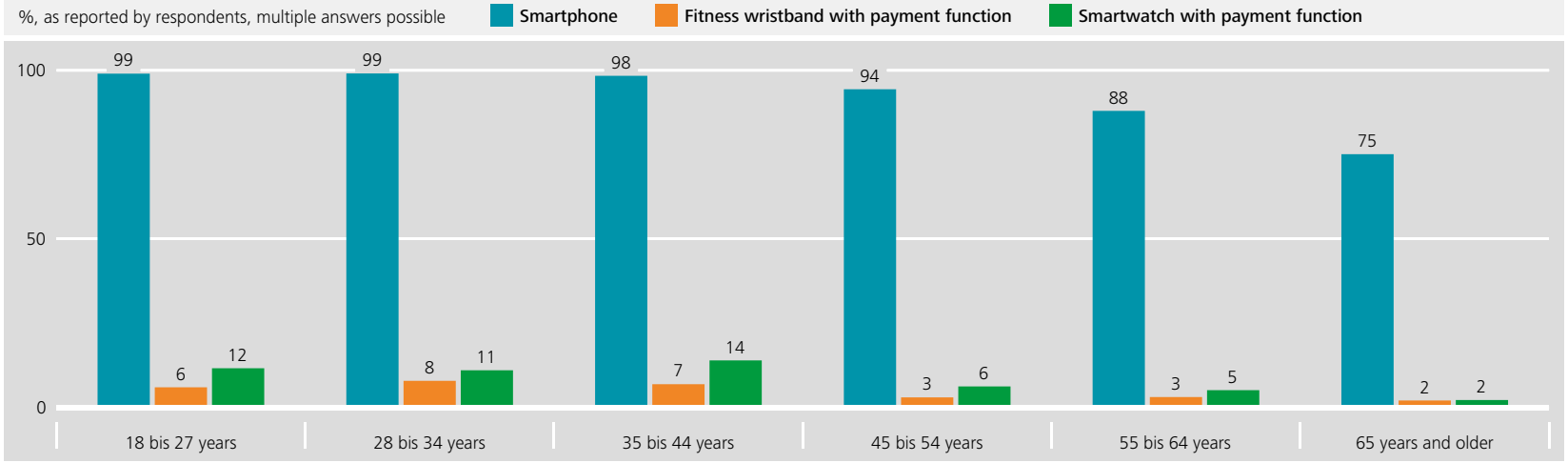


Basis: All respondents who own at least one credit or debit card (n=5,827). Question: Have you registered one or more of these cards in an app for mobile payments?
Deutsche Bundesbank

Possession of mobile devices by age group

Fig. A.4.3.1

%, as reported by respondents, multiple answers possible

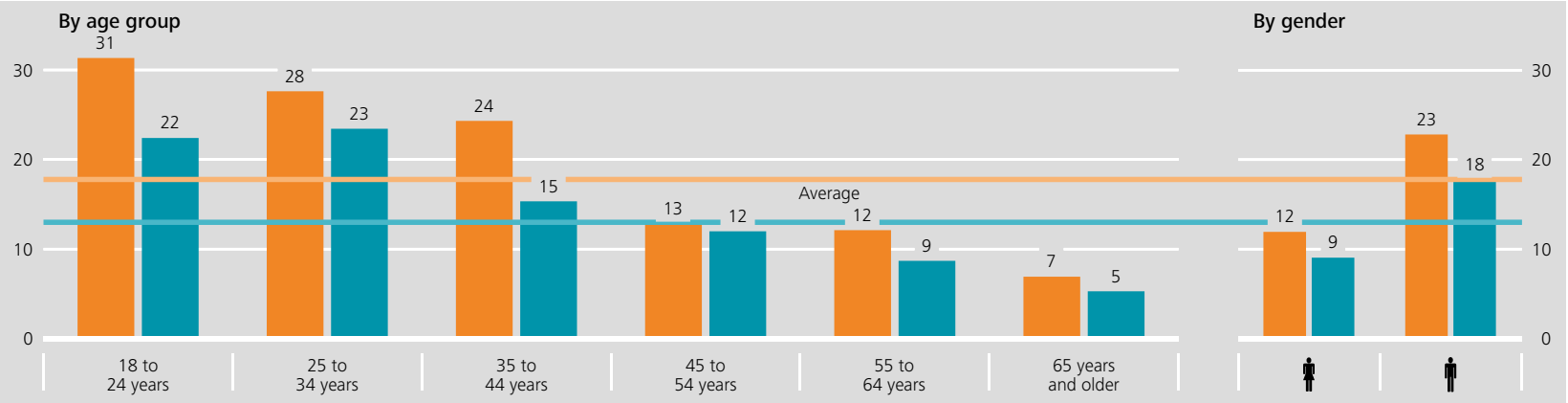


Basis: All respondents (n=5,870). Question: Do you personally own one or several of the following devices?
Deutsche Bundesbank

Use of smartphone to pay at point of sale

Fig. A.4.3.2

%, as reported by respondents — 2021 — 2020



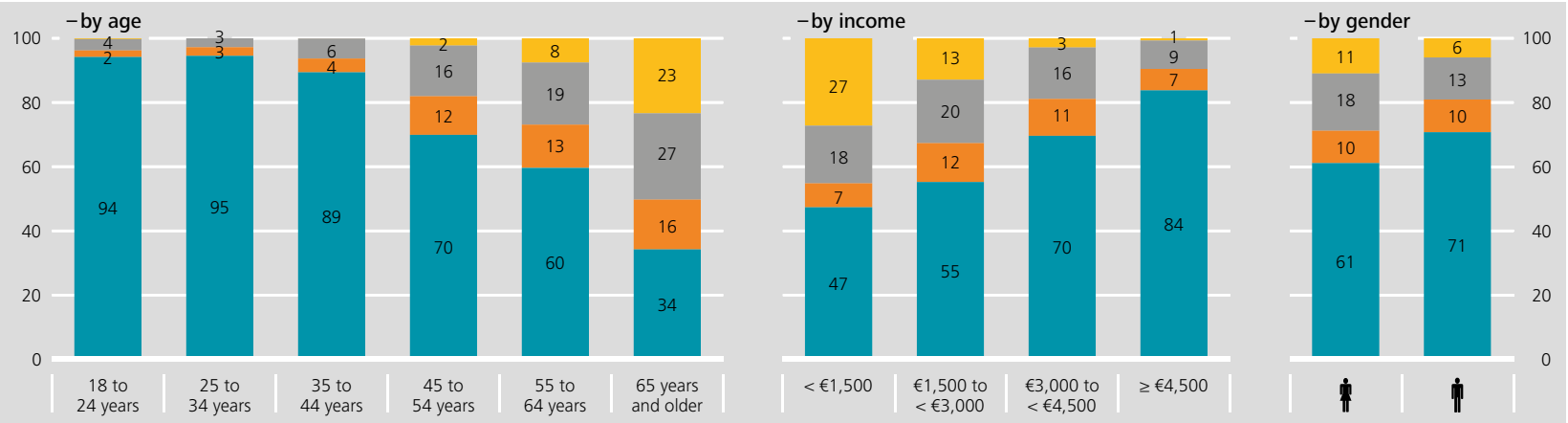
2020: Smartphone owners. Question: Have you ever paid with one of these methods? 2021: All respondents who own a smartphone and know at least one innovative payment method. Question: Have you ever used one of these methods to pay with your smartphone at the point of sale in a store?

Deutsche Bundesbank

Internet use by age, income and gender

Fig. A.4.4.1

%, as reported by respondents — Several times a day — Once a day — Several times a week or less often — Not at all

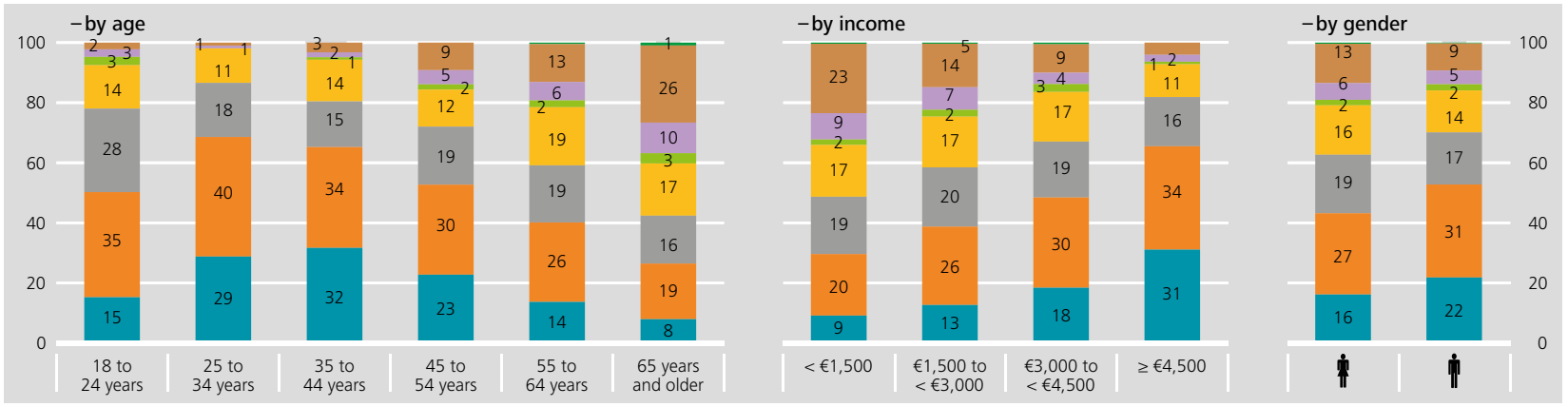


Basis: All respondents (n=5,870). May fail to sum to 100 due to rounding. Question: Thinking about the past three months, how often, if at all, did you use the internet?

Deutsche Bundesbank

Internet purchase frequency by age, income and gender

Fig. A.4.4.2



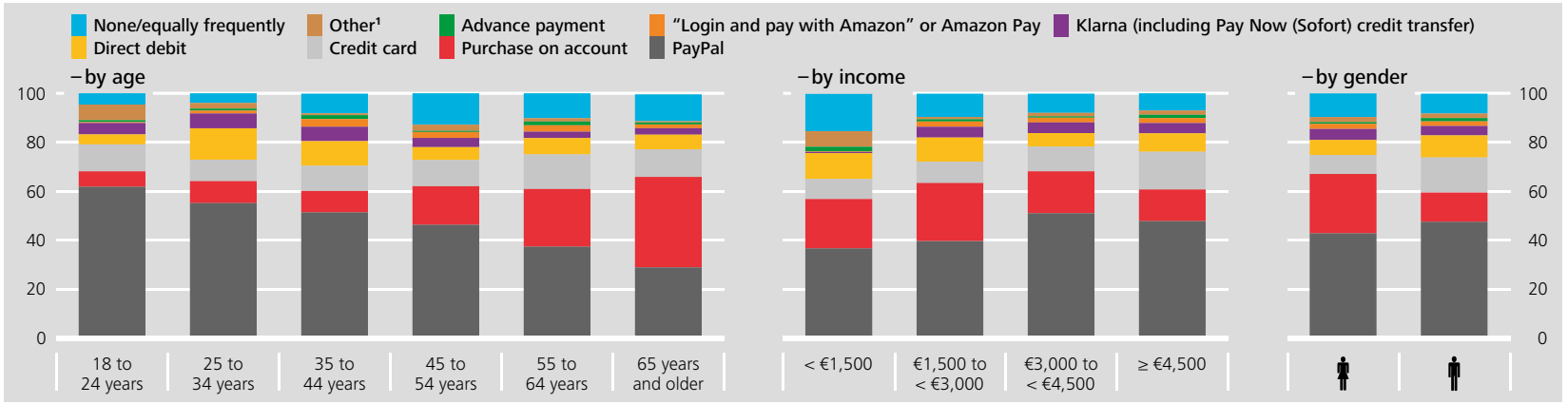
Basis: Respondents who have used the internet in the last three months (n=5,368). May fail to sum to 100 due to rounding. Question: How often do you shop online? Please also think of purchases made using an app.

Deutsche Bundesbank

Most frequently used online payment method by age, income and gender

Fig. A.4.4.3

%, as reported by respondents



Basis: Respondents in subgroup B who have used the internet in the last three months (n=2,364). May fail to sum to 100 due to rounding. Question: Which method do you use most often for online purchases? **1** Apple Pay, giropay (previously Kwitt or paydirekt), Google Pay, voucher or gift card, cash on delivery and prepaid credit card.

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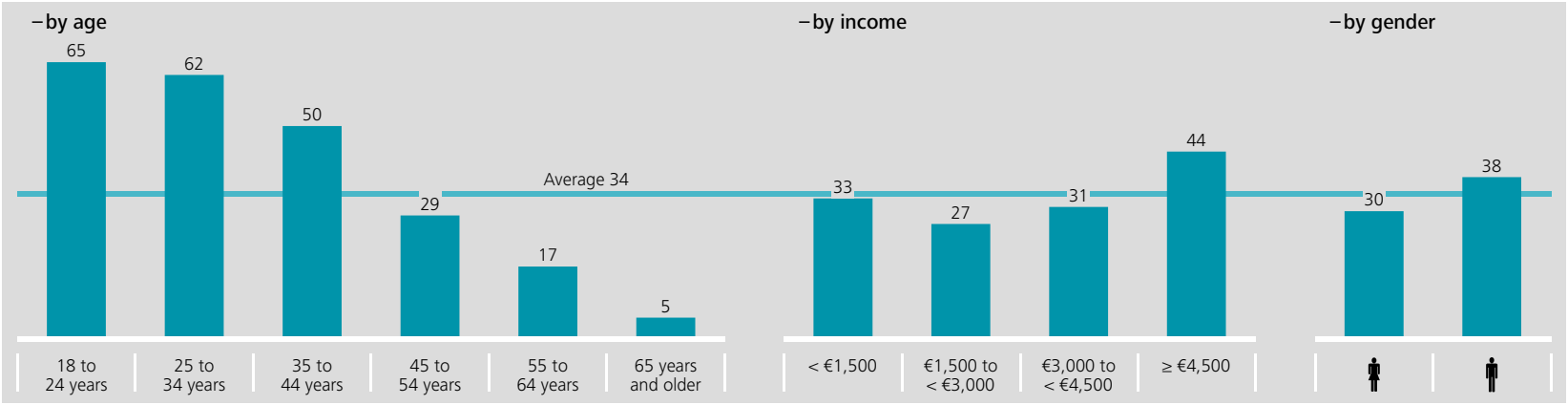
Use of P2P by age, income and gender

Fig. A.4.4.4

%, as reported by respondents



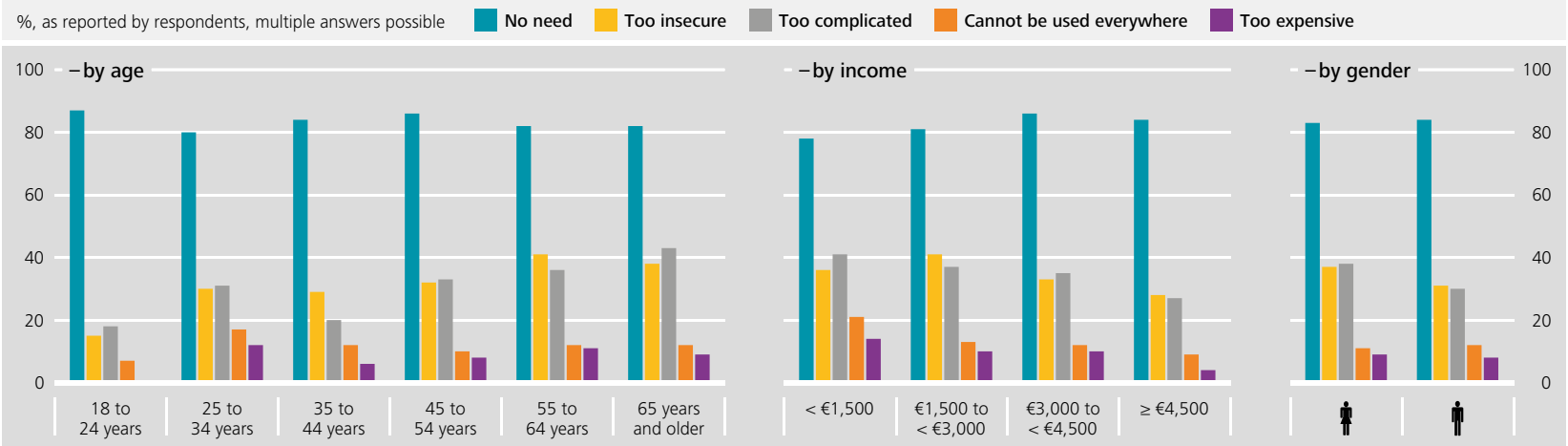
Basis: Respondents who own a smartphone and are familiar with PayPal or giropay (n=4,902). Question: Have you ever sent money to relatives, friends or acquaintances via smartphone using payment methods such as giropay (previously Kwitt or paydirekt)?

Deutsche Bundesbank

Reasons for non-use of P2P by age, income and gender

Fig. A.4.4.5

%, as reported by respondents, multiple answers possible



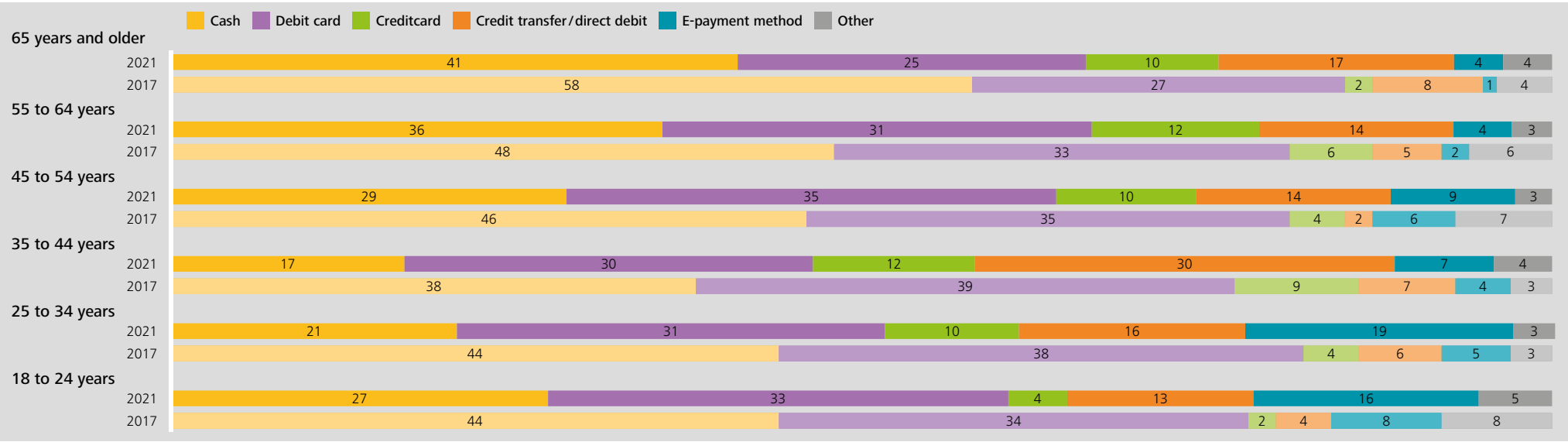
Basis: Respondents in subgroup B who do not use any of the named mobile payment methods to send relatives, friends or acquaintances money (n=1,616). Question: Why have you not yet used any mobile payment method to send money to relatives, friends or acquaintances?

Deutsche Bundesbank

Share of payment instruments by turnover, broken down by age group

Fig. A.5.2.1

%, as reported in payments diary

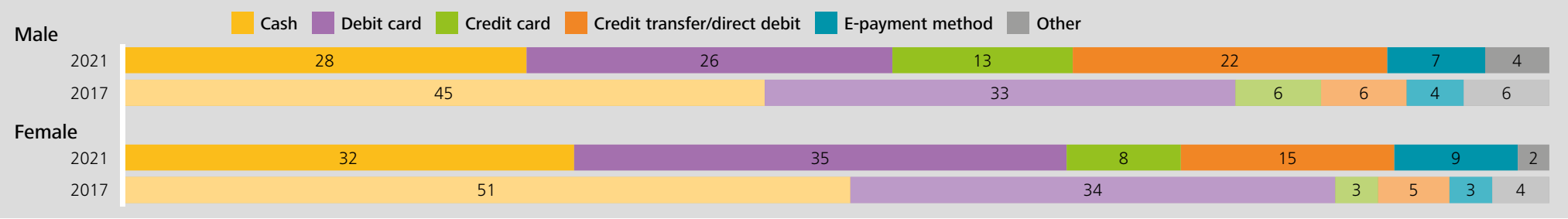


Basis: All transactions (n=15,482).
Deutsche Bundesbank

Share of payment instruments by turnover, broken down by gender

Fig. A.5.2.2

%, as reported in payments diary

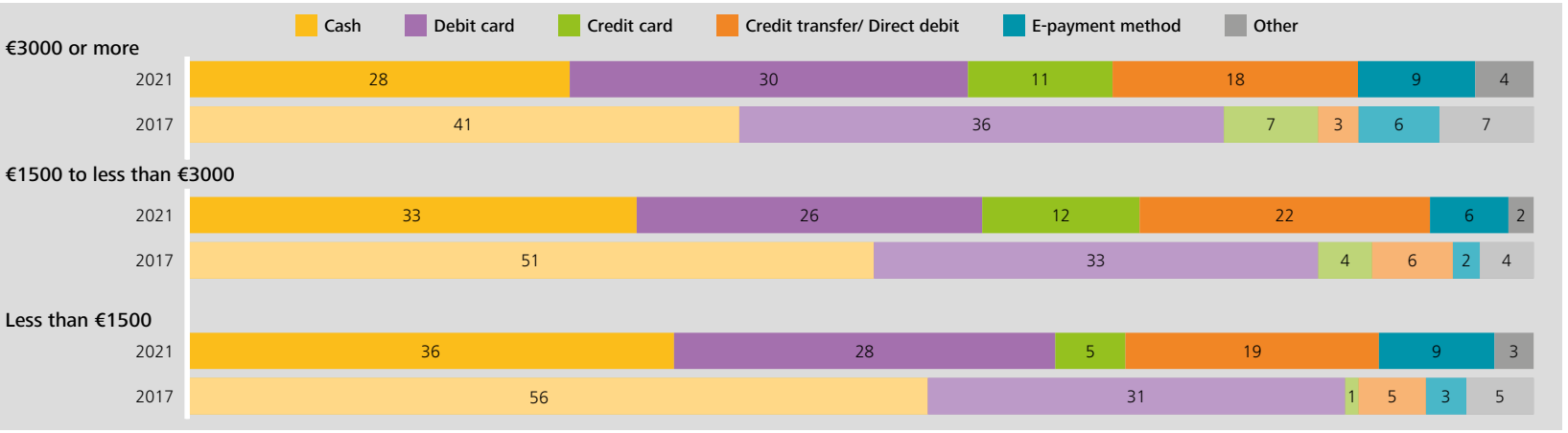


Basis: All transactions (n=15,482, value=€605,251).
Deutsche Bundesbank

Share of payment instruments by turnover, by net household income

Fig. A.5.2.3

%, as reported in payments diary



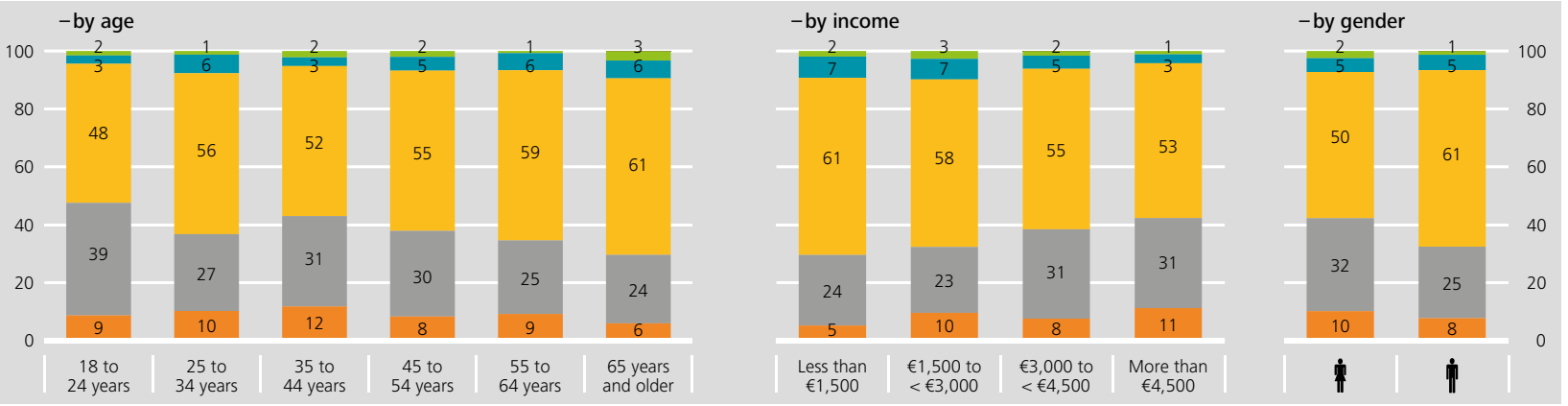
Basis: Alle Transaktionen (n = 15 482, im Wert von 605 251 €).

Deutsche Bundesbank

Internet purchases compared to before COVID-19 by age, income and gender

Fig. A.5.3.1

%, as reported by respondents



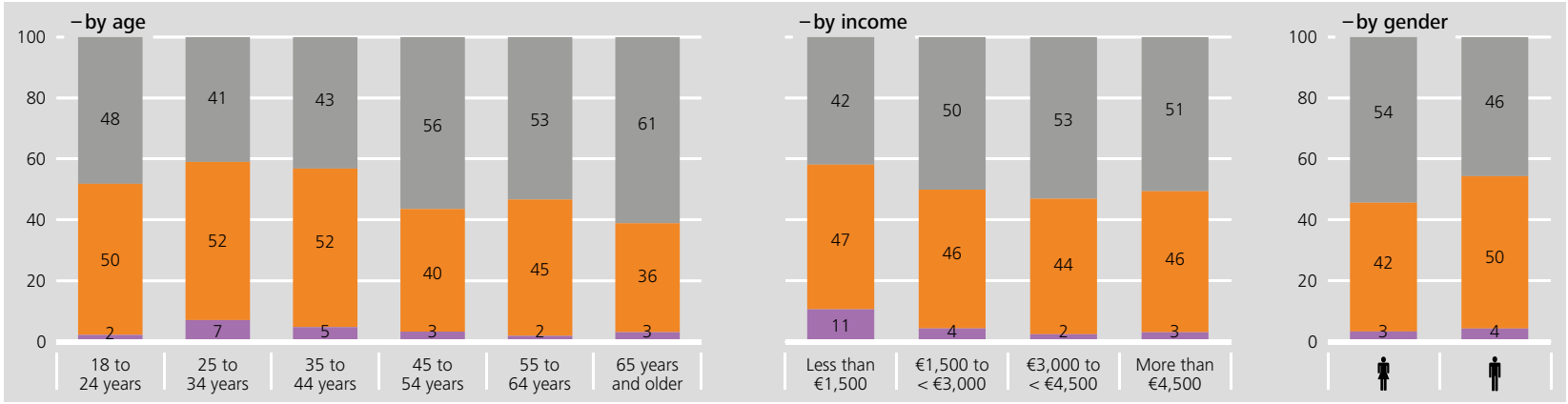
Basis: Respondents who make purchases online (n=4,757). May fail to sum to 100 due to rounding. Question: Do you shop online more or less often in comparison to two years ago, prior to the coronavirus pandemic? I shop online.

Deutsche Bundesbank

Online shopping after COVID-19 by age, income and gender

Fig. A.5.3.2

%, as reported by respondents — Return to shopping in stores more often — Continue to shop online as much as currently — d.k./n.a.



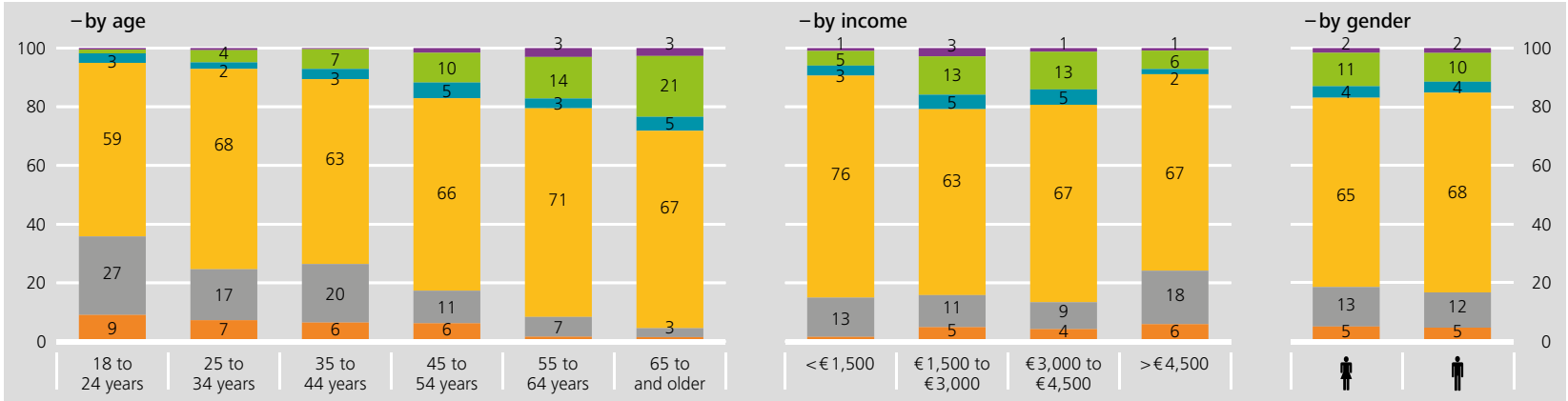
Basis: Respondents who shop online somewhat/much more frequently than before the coronavirus crisis (n=1,772). May fail to sum to 100 due to rounding. Question: Once the pandemic has been overcome, will you continue to shop online as often as you do now, or will you return to shopping in stores more often?

Deutsche Bundesbank

Use of subscription services compared to before COVID-19 by age, household income and gender

Fig. A.5.3.3

%, as reported by respondents — Much more often — Somewhat more often — As often as before — Somewhat less often — Much less often — d.k./n.a.



Basis: Respondents who make purchases online, split B (n=2,404). May fail to sum to 100 due to rounding. Question: These days, many everyday necessities or the use of media such as films, music or games can be obtained online in the form of regular subscriptions. In comparison to two years ago, i.e. prior to the coronavirus pandemic, do you use these subscriptions more or less often?

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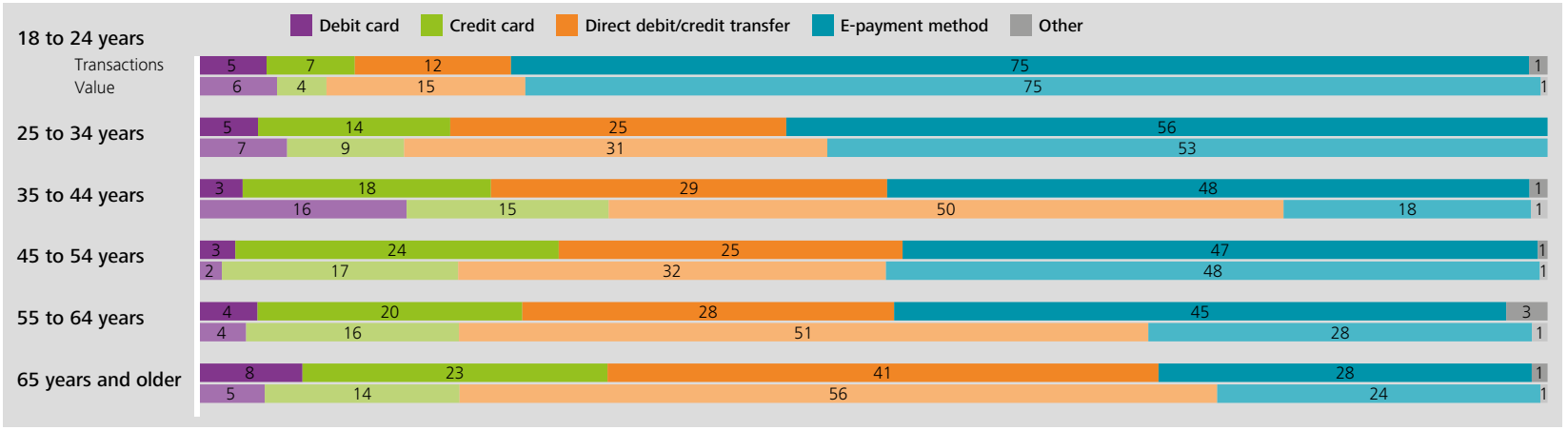
Share of payment instruments used online, by age

Fig. A.5.3.4

%, as reported by respondents

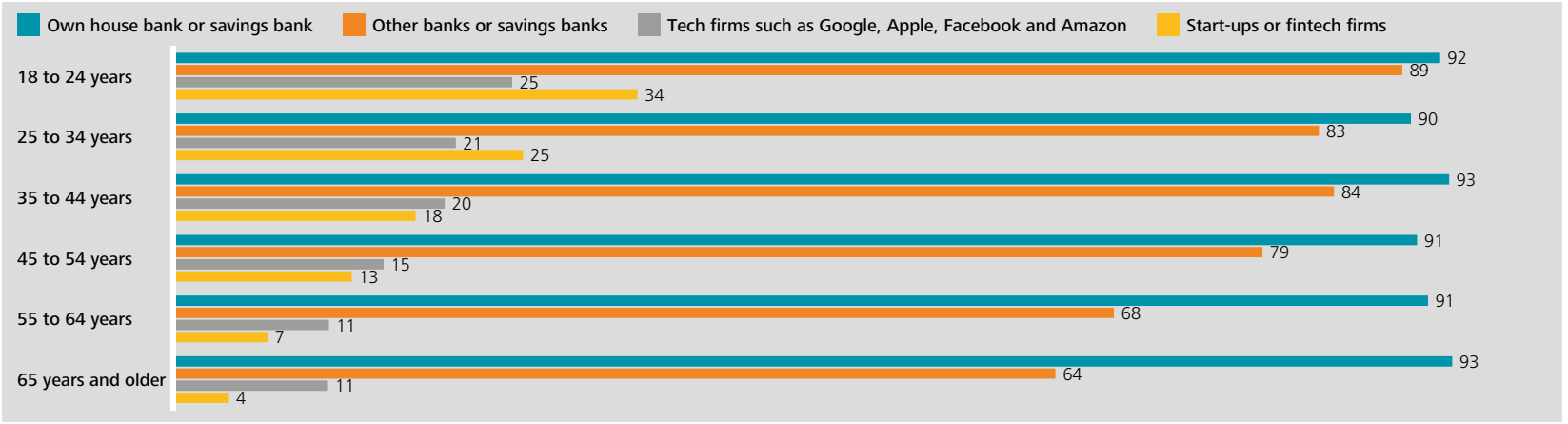


Basis: Online transactions (n=1,567, value= €142,603). May fail to sum to 100 due to rounding.
Deutsche Bundesbank

Responsible handling of payment data by age group

Fig. A.6.1.1

%, as reported by respondents

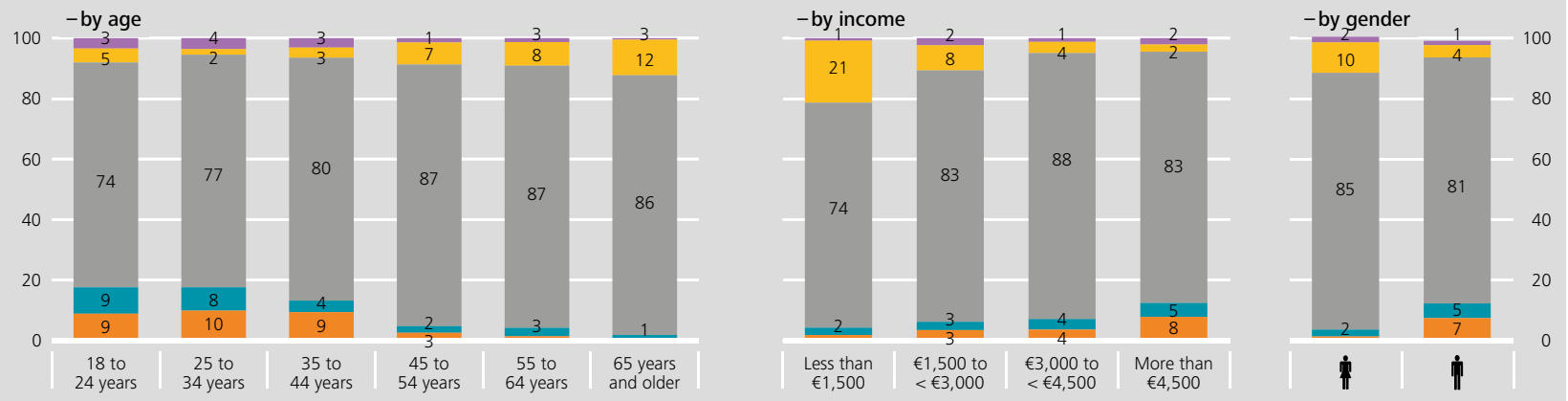


Basis: Respondents in subgroup B (n=2,928). Question: I am now going to name various institutions. Do you believe that they handle your payment data responsibly? Answer: Yes.
Deutsche Bundesbank

Potential purchase and use of crypto tokens by age, income and gender

Fig. A.6.2.1

%, as reported by respondents — Already purchased/paid with | Purchase/use planned | Purchase/use not planned | Never heard of crypto tokens | d.k./n.a.



Basis: All respondents (n=5,870). May fail to sum to 100 due to rounding. Question: Crypto tokens such as Bitcoin have attracted regular attention over the past few years. Which of the following statements applies to you personally?

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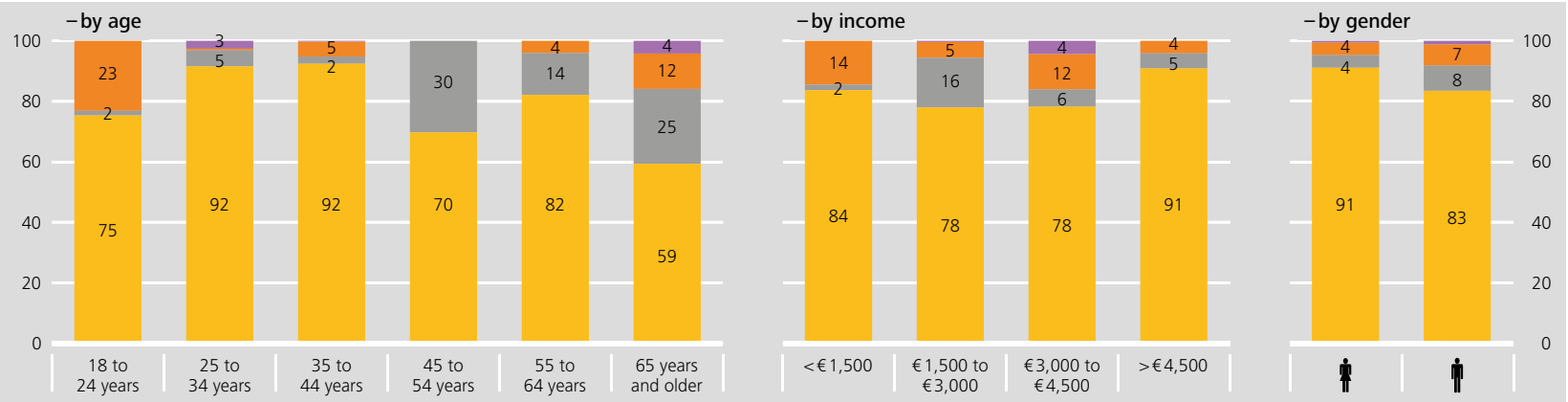
Primary use of crypto tokens by age, income and gender

Fig. A.6.2.2

%, as reported by respondents — Primarily to invest | Primarily to make payments | To invest and make payments | d.k./n.a.



Basis: Respondents who have already purchased or paid with crypto tokens (n=250). May fail to sum to 100 due to rounding. Question: You stated that you have purchased or used crypto tokens for payments in the past. Can you tell us the main reason for this?

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Glossary

Debit card
Payment card linked to a current account, which is debited immediately after payment is made. Payment to the retailer is guaranteed. Debit cards are marked with the word "debit". These are primarily girocards, which are often still referred to as "EC cards". Girocard is the name of the debit card scheme operated by the German Banking Industry Committee, under which the card can be used at ATMs and POS terminals in Germany. For use abroad, co-branding with one of the debit card brands offered by international card schemes (Maestro or V Pay or Mastercard Debit or Visa Debit) is generally required. For the purposes of the study, girocards and debit card products offered by international card schemes are grouped into one category.

Fintech
The term "fintech" is a portmanteau of "financial services" and "technology" and refers to enterprises which provide specialised financial services using modern technology. The term can also be used to refer to technologies used in the financial sector.

ATM
Automated teller machine.

E-payment method
Includes methods based on credit transfers using the payer's online banking setup (e.g. giropay/paydirekt or Klarna/Pay Now (Sofort) credit transfer) and special, internet-based electronic payment methods which enable the primary payment to be processed within a proprietary network (e.g. PayPal) and are linked to the payment account or a given payment card.

Contactless card/contactless function
Payment card (debit or credit card) for which the data required to make a payment are transferred via NFC just by holding the card to the card reader. As a rule, a PIN is requested after five payments or a total payment amount of €150 for security purposes. If the card is inserted during the next payment and the PIN is entered, this will reset the corresponding counter so that payment without a PIN is once again possible.

Credit card
Payment card which normally involves an account being debited after a certain period of time has elapsed; if used several times, this entails either the deduction of a single amount or debiting in instalments. Payment to the retailer is guaranteed. Credit cards are marked with the word "credit".

Customer card with a payment function
A customer card or reward card issued by a retailer that can be used to make payments. Payment itself is usually made at a later point in time, either by direct debit or charging the amount to a credit card.

Direct debit
Instruction given by the payee to debit the payer's payment account, with the latter's consent.

Canteen or stadium card
Cards which are issued for a specific purpose in a distinct environment where they can be used. This includes cards for staff canteens.

Mobile payment methods/mobile payment
These include payments made using a mobile phone, either in-store or not in-store, as well as using an app to conveniently send and receive money without entering an IBAN. The underlying transaction for a mobile payment is usually a credit transfer, direct debit or card payment.

Near field communication (NFC)
This is a standard technology used for the contactless transmission of data over a distance of a few centimetres.

Online banking
Conducting banking transactions over the internet. Banks offer websites/portals and apps which customers can use to manage their current account online.

Person-to-person payments (P2P)
This refers to payments between individuals. In the previous study, this was referred to as "sending money to family, friends, and acquaintances".

TAN
TANs (transaction authentication numbers) are typically used in online payment procedures. They are mainly required when entering online payment transactions and are only known to the online banking user and the bank's system, which protects against misuse by third parties. Previously, TANs were provided to the user in the form of a written list. Nowadays, TANs are generated by the bank in various ways just before their use in a particular transaction and transmitted to the payer via text message, for example.

Credit transfer
Transfer of funds, initiated by the payer, to the payee's payment account.

Prepaid payment card
Cards which must be topped up with funds before they can be used. This includes GeldKarte and girogo as well as prepaid credit cards offered by international card schemes.

Wallet/digital wallet
Digital equivalent of a wallet in an app on a smartphone or wearable. Payment cards, for example, can be stored in this way.

Wearable
These include, for example, wristbands or watches equipped with smart technology. Some of these devices allow you to pay using contactless (NFC) transmission.

Means of payment/payment methods
This includes all cash and cashless payment methods (credit transfers, direct debits, card payments) and services such as online and mobile payment methods based on them.

Two-factor authentication
Also referred to as "strong customer authentication". Since the introduction of the second EU Payment Services Directive, online and card payments must generally be confirmed by two independent authentication factors from these three categories: knowledge (e.g. static PIN or password), possession (e.g. mobile phone, card, TAN generator) and inherence (e.g. fingerprint, face image).

Imprint

Publisher: Deutsche Bundesbank
Authors: Dr Martina Eschelbach, Dr Kerstin Lorek, Julien Novotny,
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We would like to thank Johannes Hönl, Katrin Schilling and Dr Susann Sieber as well as Language Service, Corporate Design and Graphical Service of Deutsche Bundesbank.

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Last updated: July 2022