THE FEDERAL RESERVE
Financial Services

2024 Findings from the Diary of Consumer Payment Choice

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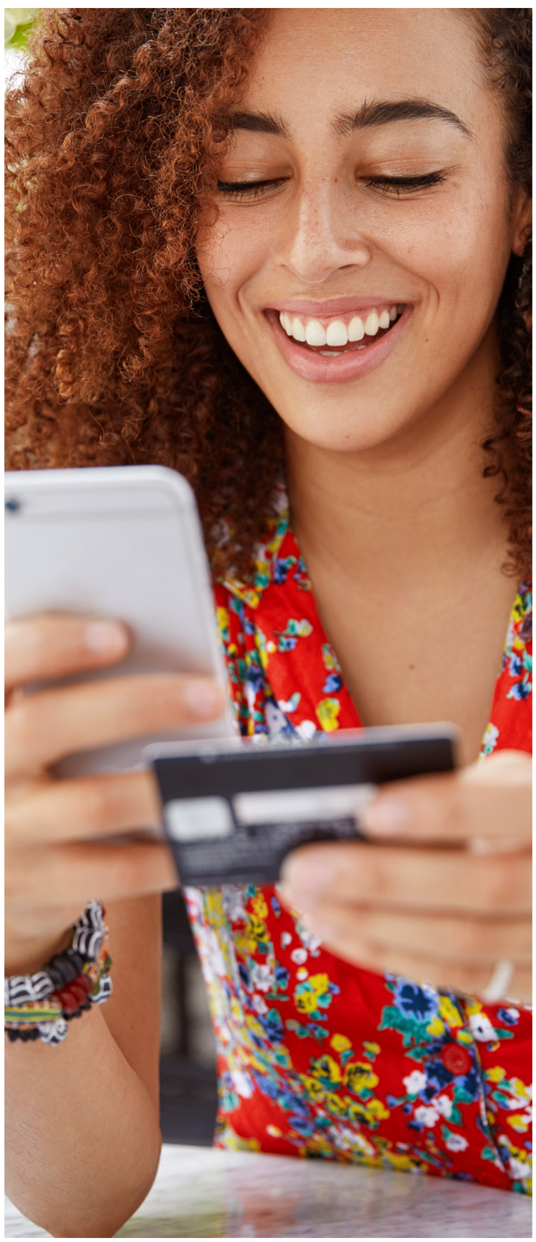

Summary

This year's Diary of Consumer Payment Choice is the first Diary study conducted since the Centers for Disease Control and Prevention declared the end of the COVID-19 emergency in May 2023.[1] Results from the most recent Diary conducted in October 2023 indicate that the pandemic had lasting effects on how consumers made payments. Given the long-term impact the pandemic may have on shopping behavior, as well as the ongoing evolution of consumer payments, FedCash® Services continues to research how people pay for goods and services as economic conditions return to a more normal, post-pandemic state.

The key findings of the 2024 Diary are:

- Cash was the third-most-used payment instrument, though its share of all payments declined as the total number of payments increased.
    - Cash payments remained stable at seven cash payments per month.
    - Consumers made an average of 46 monthly payments, an increase of seven payments compared to 2022.
    - Consumers made an equal number of cash and debit card purchases for payments under $25, marking the first time in Diary history that cash was not the most-used instrument for smaller-value payments.
- Cash use was driven by in-person shopping, as well as by the payment behavior of consumers in low-income households and individuals age 55 and older.
    - In total, 22% of non-bill payments were made online or remotely, an increase from 19% in 2022, reducing opportunities to use cash.
    - Consumers living in households with income of less than $50,000 a year used cash for 28% of payments, compared to 13% for consumers in households with annual income of more than $50,000.
    - Consumers younger than 55 used cash for 12% of all payments, significantly less than those 55 and older, who used cash for 22% of payments.
- Consumers held more cash in 2023 compared to their pre-pandemic holdings.
    - Cash held in one's pocket, purse or wallet remained elevated at $74, compared to $60 before the pandemic.[2]
    - Average store-of-value holdings declined to $369 from $418 in 2022, but remained well above pre-pandemic levels at $241.[3]

Overall, consumers spent more money and made more payments in October 2023 than in previous years, continuing the trend of rising numbers of payment transactions since 2020.[4] They made more frequent debit and credit card payments and increased the share of payments they made online or remotely.[5] Although consumers still made most of their payments in person, the increase in card payments without an associated increase in cash payments suggests that the share of cash payments is not likely to return to pre-pandemic levels absent a significant shock to the payments landscape or economy. The share of cash payments declined compared to 2022 even as people made the same number of cash payments in every year since 2021. This suggests consumer demand for cash may have reached the current "floor" given the impact of the pandemic and subsequent economic conditions.

The consistent number of cash payments and sustained elevated cash holdings indicates persistent cash demand that may continue in the coming years. While consumers have shifted toward card payments in recent years, demand for cash may, at least in part, stem from cash's unique characteristics, including anonymity, ubiquity and zero transaction costs, features that are not completely replicated in the suite of other payment options currently available to consumers.[6]

Acknowledgements

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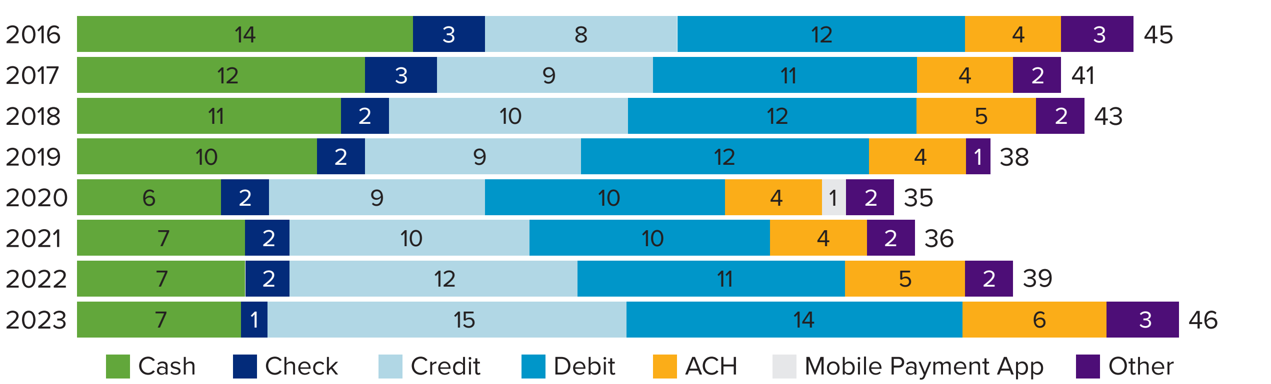
Trends in Payments

Cash use remained consistent, but its share declined as the total number of payments increased.

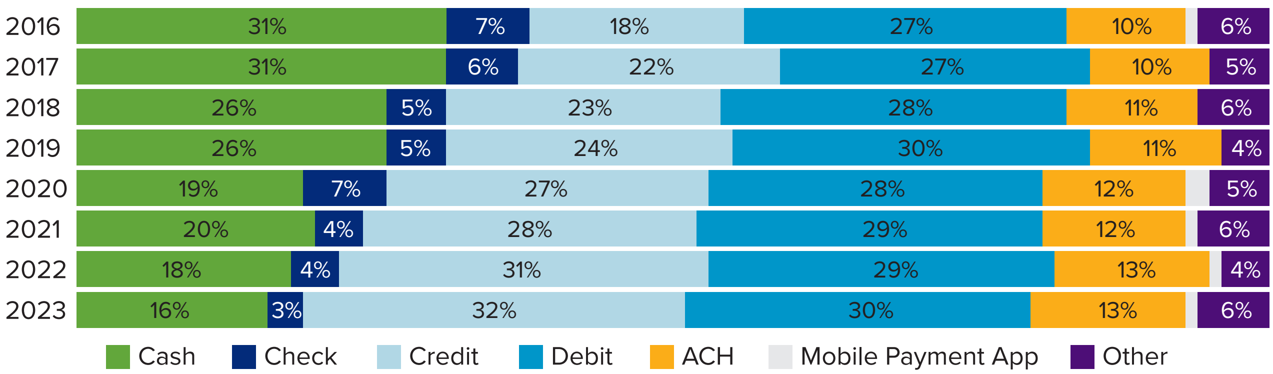
The October 2023 Diary findings showed notable shifts in payment use compared to the previous year, coinciding with the significant increase in the total number of consumer payments. In October 2023, consumers reported making a total of 46 payments, a sizeable increase of seven payments compared to the previous year (Figure 1). This year's data continues an upward trajectory in consumer payments observed since 2021 that was largely driven by increased payments at grocery stores, fast-food locations and general merchandise retailers.[7] The increase in payments volume was reflected in the greater use of credit and debit cards. Since the 2016 Diary, credit card payments have nearly doubled, increasing from eight payments in 2016 to 15 payments in 2023. Conversely, cash payments decreased 50% over the same period, declining from 14 payments in 2016 to seven in 2023.

Figure 1: Average number of total payments



Increased debit and credit card use between 2022 and 2023 resulted in more than 60% of payments being made with credit (32%) and debit cards (30%) (Figure 2). In 2023, the two physically limited payment options (i.e., cash and checks) were the only payment instruments with year-over-year declining shares. Cash remained the third-most-used payment instrument, accounting for 16% of payments in 2023, down two percentage points from 2022. This is the lowest share of cash use reported since the start of the Diary and is due to the increase in total payments, rather than a decrease in cash payments.[8] Similar to the cash trend, the share of check use decreased in 2023 as consumers used checks for only 3% of payments. In addition, automated clearing house (ACH) payments, which mostly are used to pay bills, accounted for 13% of all payments.[9]

Figure 2: Share of payment instrument use for all payments



As discussed in previous Diary papers, conditions during the pandemic shifted consumers' payment choices toward greater card use.[10] Despite this, cash payments have stabilized at seven payments since 2021. This consistent use of cash supports the hypothesis of a "floor" to cash use, in which some consumers want or need to use cash when making certain payments. While the pandemic's impact on consumer payment choice is evident more than three years after the official state of emergency began in March 2020, the relative stability of consumers' top three payment instruments is noteworthy.

Factors Affecting Consumer Cash Payments

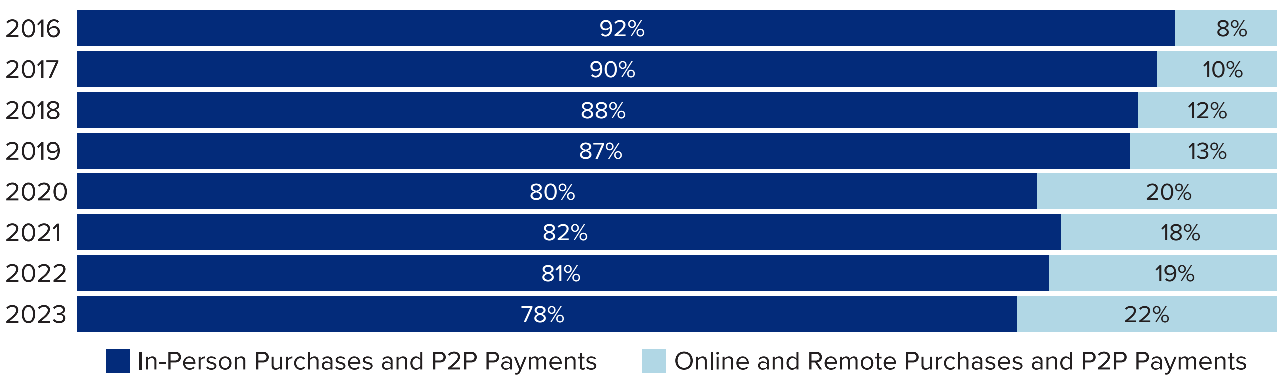
Four main factors influenced which payment instrument consumers used when making a payment: the payment location, the individual's payment preference (which is influenced by a consumer's age and household income), the merchant type and the value of the payment. In 2023:

1. The share of online payments made for purchases and person-to-person (P2P) payments continued to increase.
2. The share of consumers who preferred cash for in-person payments remained consistent, while preference for credit cards increased compared to 2022.
3. The number of payments at grocery stores, restaurants and gas stations increased, while cash payments at these merchant locations remained stable.
4. The number of small-value payments under $25 increased compared to 2022.

1. The share of in-person payments declined, reducing opportunities to use cash.

The share of purchases and person-to-person payments made online or remotely has increased nearly every year since 2016 (Figure 3).[11,12] In 2023, purchases and P2P payments made remotely (including online) accounted for 22% of purchases and P2P payments, up from 19% in 2022 and from 13% in 2019. The increase in remote payments compared to last year is significant because remote payments reduce opportunities for individuals to pay with cash. While the share of remote payments remained consistent between 2020 and 2022, the increase in 2023 showed consumers continued to shift their purchases and P2P payments toward online and remote platforms following the pandemic.[13,14]

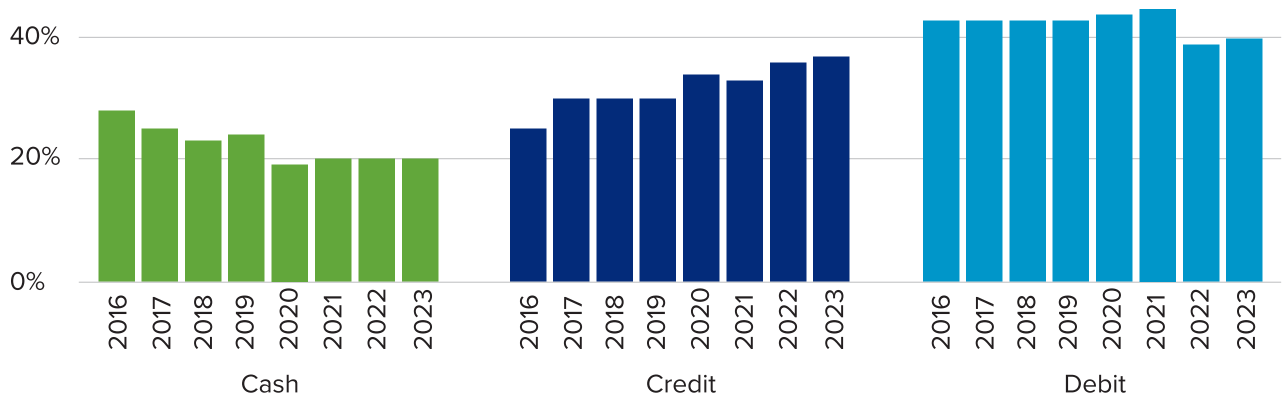
Figure 3: Percent of purchases and P2P payments made in-person versus online or remotely



2. Consumers increasingly prefer credit while cash preferences remained stable.

A second factor affecting consumer payment use is a consumer's stated payment preference. Consumers use their preferred instrument for most of their payments. Approximately 95% of consumers preferred using cash, credit cards or debit cards for in-person payments (Figure 4).[15] Following a five percentage point decrease in those who preferred cash at the start of the pandemic in 2020, the share of consumers who prefer cash has been stable at approximately 19% since 2021. While the share who preferred cash stabilized, preferences for in-person payments have shifted toward credit cards, as respondents increasingly reported preferring credit cards when making online payments. Compared to 2021, the share of consumers who prefer credit cards has increased by four percentage points and the share preferring debit cards has declined by five percentage points.[16]

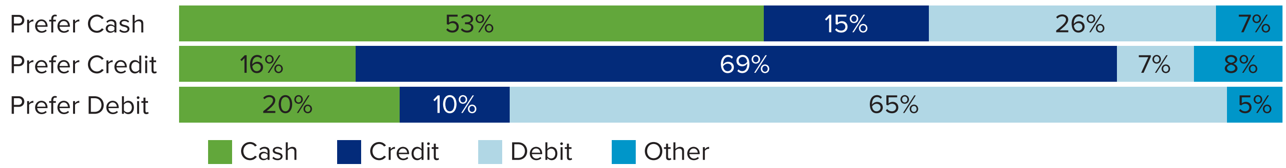
Figure 4: Stated payment preference for in-person payments



Nearly three-quarters of all cash payments were made by consumers who prefer cards.

While consumers tend to use their preferred payment instrument for most of their payments, they made at least 30% of payments using a non-preferred instrument. For example, consumers who preferred cash used credit or debit cards for about 40% of their in-person payments, underscoring that most consumers do not rely on only one payment instrument (Figure 5).[17] For consumers who preferred credit or debit cards, cash was their second-most-used instrument, accounting for 18% of their payments. Given the size of the population who preferred cards, most cash payments were conducted by people who preferred cards rather than cash.

Figure 5: Share of in-person payments by payment preference

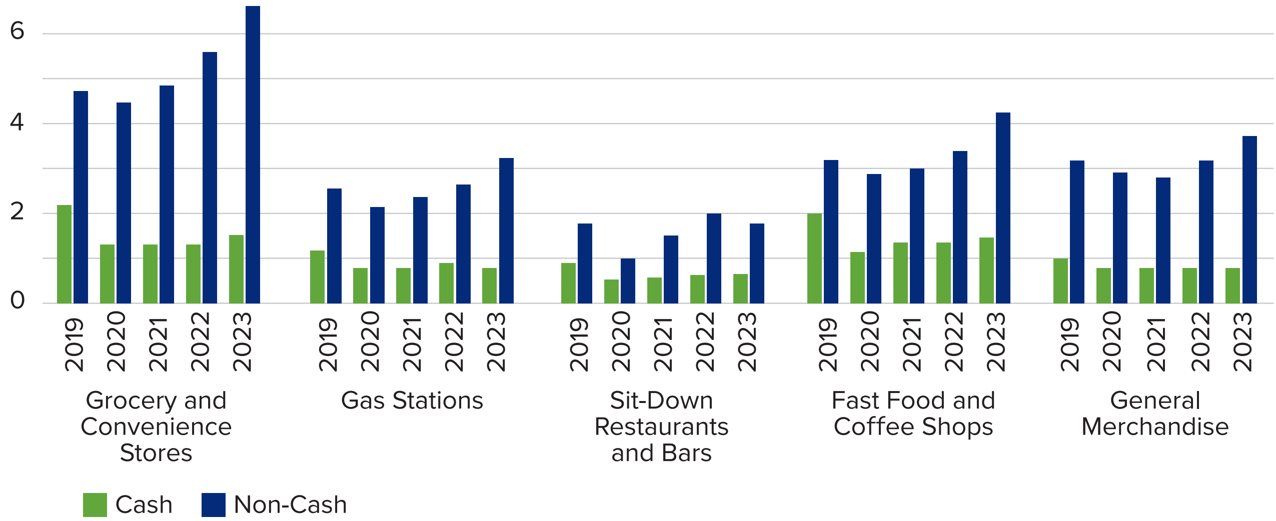


3. Cash use remained stable at select in-person merchant types, while card payments increased.

Despite the increase in remote payments, 78% of payments were conducted in person. These payments typically are conducted at brick-and-mortar locations, such as grocery and convenience stores, restaurants, gas stations and general merchandise locations. Since 2020, the number of in-person payments made at these retail locations has slowly increased, returning to pre-pandemic levels (Figure 6). As in-person shopping increased, consumers were more likely to use their credit and debit cards compared to 2019, suggesting that some of the payments consumers made with cash before the pandemic are now being made with cards.

The number of in-person cash payments made at these retail locations has continued to lag behind pre-pandemic levels, but has remained stable since 2020 (Figure 7). Despite the continued use of cash at these merchants since 2020, it appears unlikely that cash payments will return to pre-pandemic levels. However, the consistent level of cash usage across these merchant categories since 2020 indicates that cash usage will endure for the foreseeable future.

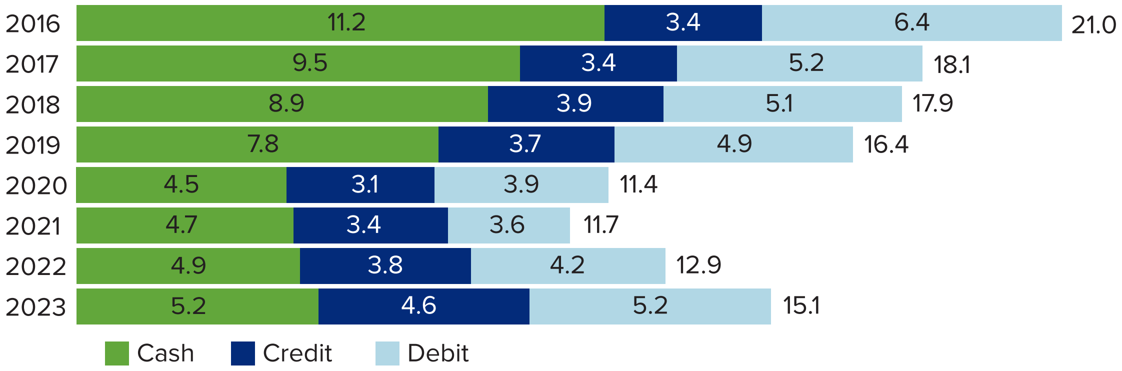
Figure 6: Average number of in-person payments by merchant type per month



4. Small-value payments increased due to debit and credit usage; cash use was stable.

The number of small-value in-person payments decreased significantly in 2020 (Figure 7) but has increased each year since 2021. Though small-value in-person payments have increased since 2020, only credit and debit payments were back to their pre-pandemic levels in 2023. In contrast, small-value cash payments of less than $25 have not returned to pre-pandemic levels, as consumers increased their card use in place of cash payments. As a result, debit cards are now used as often as cash for in-person payments under $25. This marks the first time cash was not the most-used instrument for small-value payments.

Figure 7: Average number of in-person payments less than $25 per month

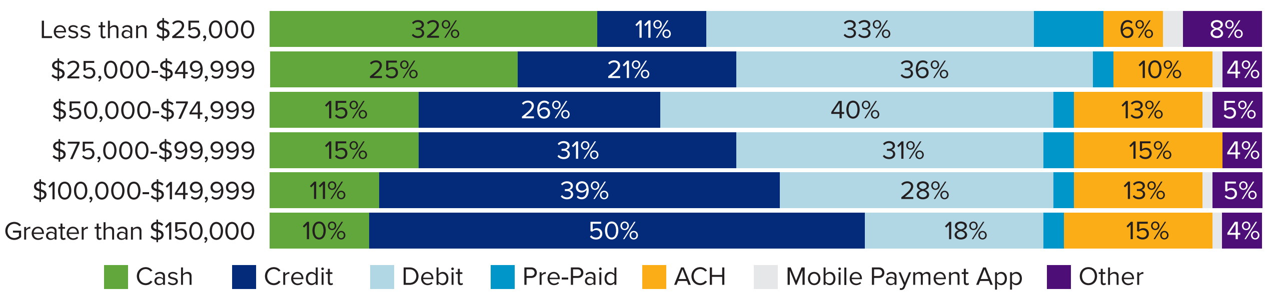


Cash Use by Demographics

Households at all income levels have reduced cash use since 2019, and low-income households use cash most.

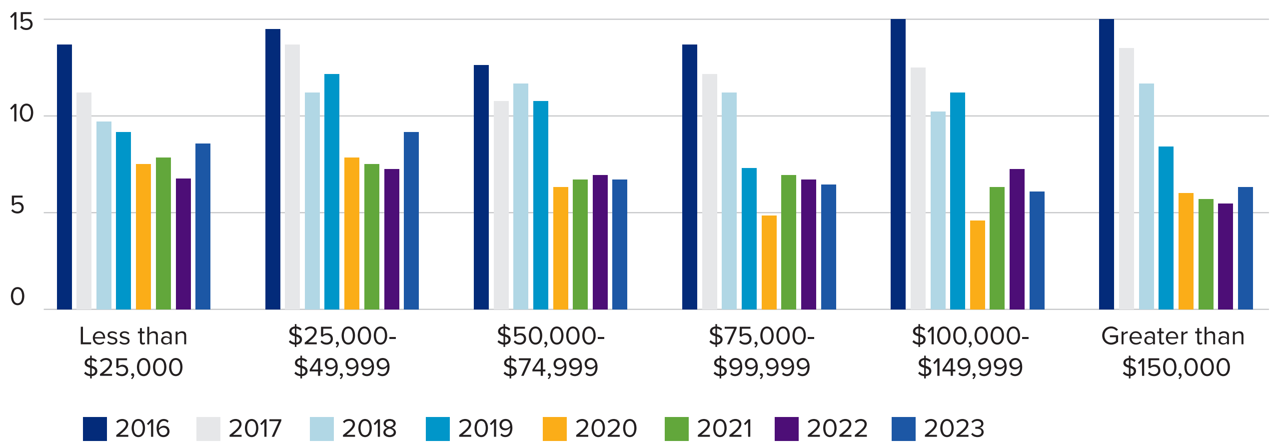
Consumer payment choice often is correlated with household income (HHI). In general, as HHI increases, the share of cash use decreases and the share of credit card use increases. In 2023, consumers with HHIs of less than $25,000 used cash for approximately one in three payments. Those in households with an income of more than $150,000 used cash for one in 10 payments (Figure 8). This difference in payment instrument use across households likely is due to several factors, including budgeting, liquidity, payment preferences and a household's ability to access the full suite of consumer payment options. This is especially true for those living in HHIs of less than $25,000, as approximately 20% of this cohort reported being unbanked.[18]

Figure 8: Share of payment instrument use by household income



While the share of payments made with cash varied with HHI, the number of cash payments was more consistent across income groups, between six and nine in October 2023 (Figure 10). This consistency in the number of cash payments regardless of HHI relates to the number of in-person payments made by each cohort. In October 2023, those with HHI of more than $100,000 made an average of 35 in-person payments, and those with HHI of less than $50,000 made 22. Individuals in higher income households simply had more opportunities to use cash, even though they used cash at a lower rate. During the pandemic, the number of cash payments decreased for all income groups (Figure 9), indicating that shopping behavior and payment choice are not completely inflexible, even for consumers with lower incomes.

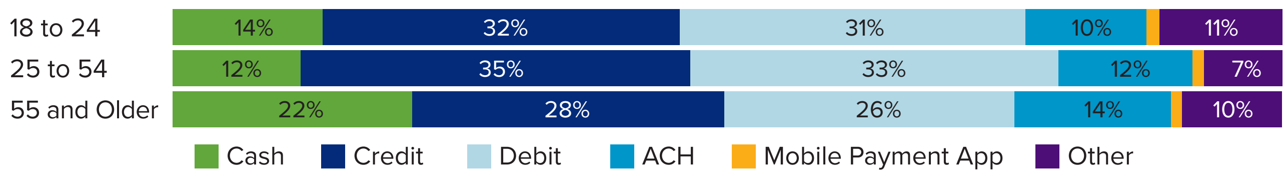
Figure 9: Number of cash payments by household income per month



Older people are more likely to use cash. Post-pandemic, the difference between old and young is more marked.

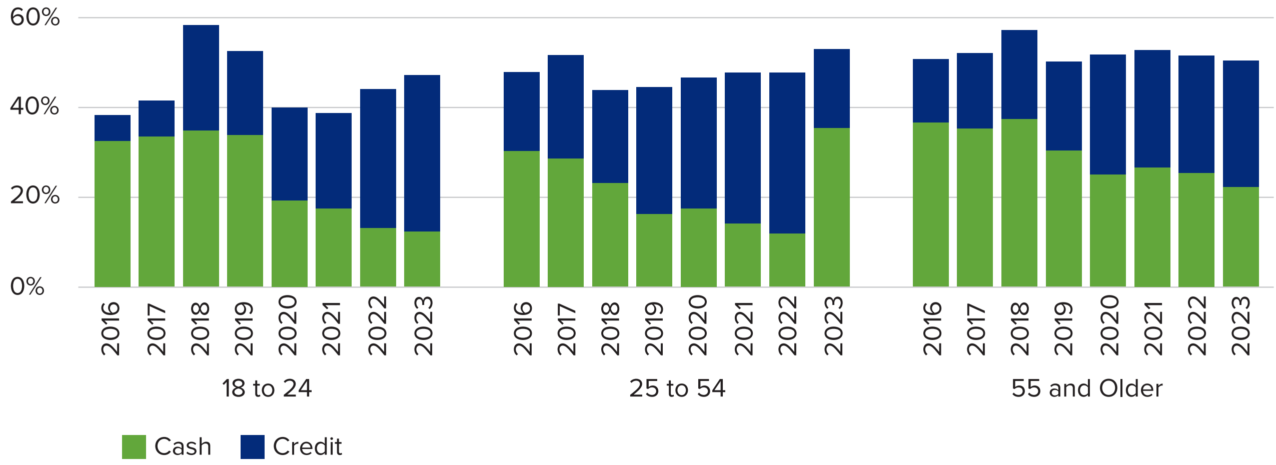
In 2023, there was a generational divide in payment use. Individuals younger than 55 used credit and debit cards at a higher rate than older individuals, who turned to cash more frequently. Notably, adults age 55 and older relied on cash for 22% of their payments, a rate approximately 1.5 times higher than that of their younger counterparts under 55 (Figure 10). Consequently, consumers 55 and older used credit and debit cards for 54% of their payments, a share considerably lower than any younger cohort.

Figure 10: Share of payment instrument use by age



Before the pandemic, the correlation between cash usage and age exhibited a different pattern, as illustrated in Figure 11. While all age demographics have relied less on cash payments since 2019, individuals under the age of 25 experienced the most pronounced shift. Before 2020, consumers age 18 to 24 used cash for about one in three payments, a rate similar to that of consumers 55 and older. Since 2020, 18- to 24-year-olds have significantly reduced their share of cash use to about one in seven payments and increased their use of credit cards. As a result, the share of payment use among the youngest cohort is more similar to consumers 25 to 54 than it is to those 55 and older. This shift in cash usage among younger demographics may carry significant long-term implications, particularly as the U.S. population continues to age.

Figure 11: Share of cash and credit card payments by age group



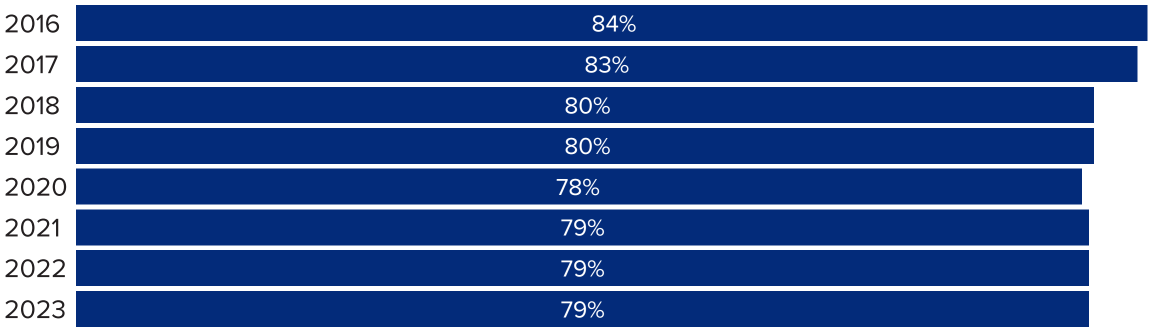
Trends in Cash Holdings

Cash serves dual roles as both a medium of exchange and a store of value. As cash payments have remained consistent since 2020, on-person holdings remain elevated and store-of-value cash holdings increased over the same period. Although a significant portion of cash is held abroad, the increase in cash holdings since 2020 has contributed to the overall growth in the value of currency in circulation (CIC), which reached $2.27 trillion in October 2023, up from $1.73 trillion in October 2019. While CIC growth continued, the pace of growth has slowed as people reduced their store-of-value holdings in 2023. Factors influencing this trend include less uncertainty as the pandemic subsided and a higher opportunity cost to hold cash due to higher interest rates.

Share of consumers holding cash is consistent from year to year.

While the pandemic affected the number of cash payments, it did not significantly affect the share of people who carry it. The share of the population holding cash has remained relatively constant since 2018.[19] In October 2023, 79% of participants reported holding cash on their person (pocket, purse, wallet) at least one day during their survey period (Figure 12). This persistence of carrying cash is notable because it signals a willingness to use cash to make payments, even if it is only as a backup payment instrument.[20]

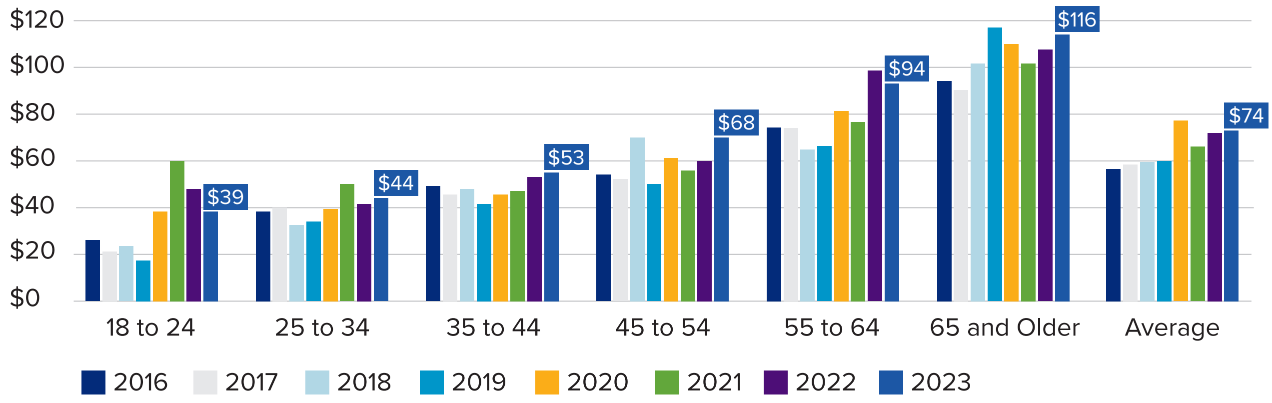
Figure 12: Share of adults holding on-person cash at least one day



Post-pandemic, consumers hold more cash for spending.

The average value of on-person cash holdings spiked in 2020 and remained elevated at $74 per person in 2023 (Figure 13).[21] Before the pandemic, average daily holdings were around $60 per person. Younger and older individuals make different choices about how much cash to hold, as well as their payment behaviors. For example, people older than 65 hold almost three times as much cash as those 18 to 24 (keeping in mind that cash holdings increase with household income). This difference in cash holdings between generations existed before the pandemic and has persisted into 2023.

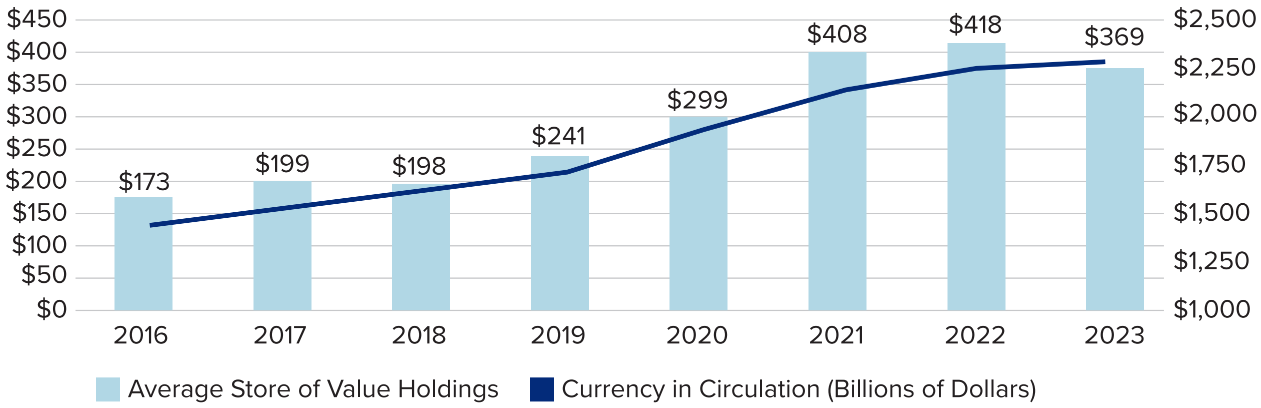
Figure 13: Average daily cash holdings by age



Store-of-value cash holdings, while higher than pre-pandemic levels, are down from 2022.

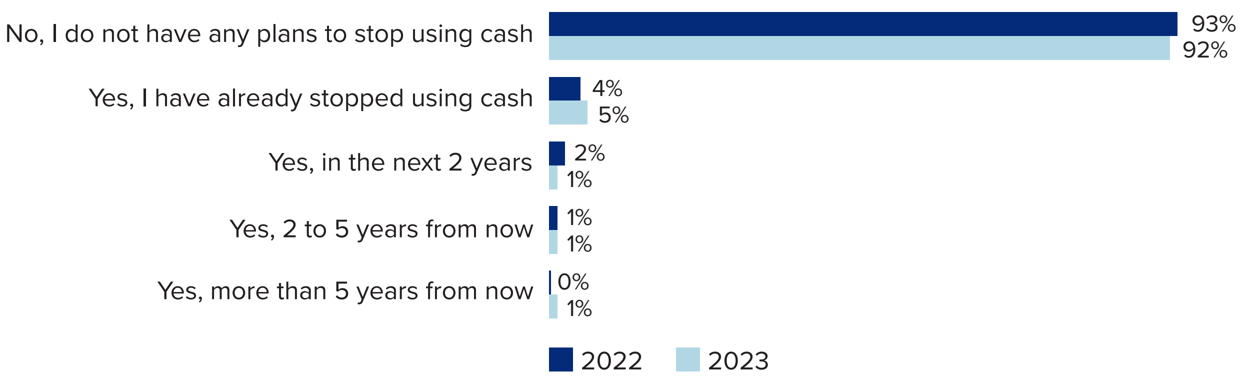
In October 2023, there was a notable decrease in consumers' store-of-value holdings, defined as cash stored in one's home, office or vehicle. Throughout the pandemic, average store-of-value holdings increased by 73%, from $241 in 2019 to $418 in 2022 (Figure 14). This trend reflects a common behavior observed during times of uncertainty, when individuals tend to hold more cash. However, in October 2023, consumers decreased their average store-of-value holdings to $369, likely due to the official end of the pandemic in May 2023.

Figure 14: Average store of value holdings



The elevated value of cash holdings throughout the pandemic likely stems from its unique characteristics as a store of value and safe harbor in emergencies. These unique features of cash explain why more than 90% of people intend to use cash as either a means of payment or store of value in the future (Figure 15).

Figure 15: Do you currently have any plans to stop using cash in future?

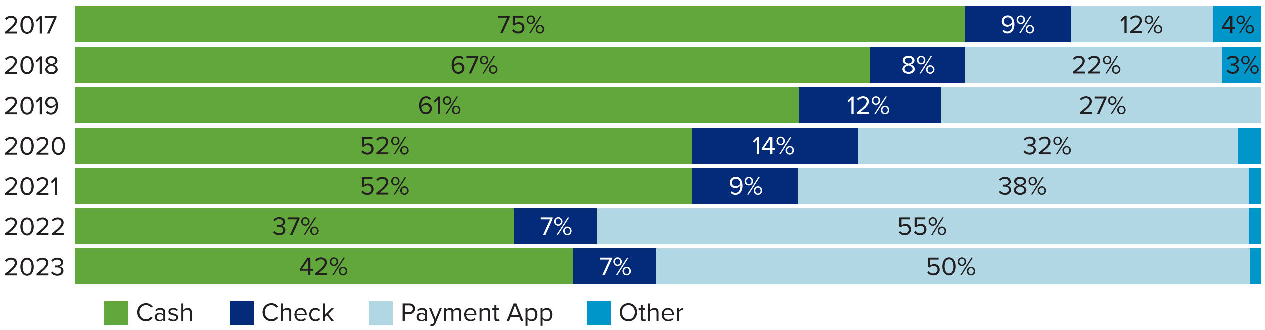


Person-to-Person Payment Trends

In 2023, consumers used mobile apps for most person-to-person payments.

Over the past two decades, person-to-person payment apps have become nearly ubiquitous. Data from Diary studies spanning from 2016 to 2022 revealed a significant decrease in the proportion of P2P payments conducted with cash, coinciding with a rise in transactions conducted through payment apps, as illustrated in Figure 16. Debit and credit cards are more commonly used for payments to businesses, but these options typically are impractical or costly for P2P transactions. Consequently, individuals predominantly used cash, checks or payment apps for such exchanges. By 2022, payment apps accounted for half of all P2P transactions, a trend that stabilized in 2023 as the share of cash use increased by five percentage points. Diminishing reliance on cash for P2P payments mirrors the broader decline in cash usage across various payment methods. This may signal a widespread consumer transition away from paper-based payments, though the consistent share since 2022 also may suggest a floor to cash use for P2P payments, as well.

Figure 16: Share of P2P payments by payment instrument



Conclusion

Overall, the 2023 Diary showed that consumers increased the total number of payments made since 2022. Amid increased consumer payments, cash's share decreased as consumers reached for cards to make these additional payments. Despite the decrease in the share of payments made in cash, cash use has remained stable since 2021. Consumers made seven cash payments per month on average in the last three years. In addition, demand for cash as a store of value remained strong, as consumers continued to hold more cash in 2023 than 2019.

Consumers' use and demand for cash continues to evolve, with cash often used as a store of value and backup payment instrument. Aggregate demand for currency grew in 2023, though more slowly than during the pandemic, as ease of use, ubiquity and zero transactional costs continue to make cash useful for consumers, merchants and P2P payments. While debit and credit cards offer some features cash does not have, most people have no plans to stop using cash, indicating continued demand for it.

Appendix

About the Diary of Consumer Payment Choice

The Federal Reserve has conducted the Diary annually since 2016 to better understand U.S. consumer payment habits. Respondents to this nationally representative survey report all payments they make during an assigned three-day period in October. By tracking consumer payment transactions and preferences annually during the month of October, Federal Reserve Financial Services compares cash with other payment instruments, such as debit and credit cards, checks and electronic options. Diary participants also report the amount of cash on hand after each survey day, cash stored elsewhere, and cash deposits or withdrawals. The Diary data is then analyzed, including the impact of age and income on an individual's payment behavior and preferences. This detail on the stocks and flows of cash at an individual level provides insight into how consumers use cash.

Developed by the Federal Reserve Bank of Boston's Consumer Payment Research Center (CPRC) and currently managed by the Research Department at the Federal Reserve Bank of Atlanta, the Diary collects data about shopping and payment behavior using a unique, nationally representative survey of consumers administered by the University of Southern California (USC) Dornsife Center for Economic and Social Research. USC's Understanding America Study panel of households comprises approximately 14,000 respondents from across the United States, of which 4,579 individuals participated in the 2023 Diary.

To ensure a nationally representative sample, responses are weighted to match national population estimates based on the Census Bureau's Current Population Survey. The Diary is administered throughout the month of October, which was selected to minimize seasonality effects in consumer spending patterns. Each participant was assigned a three-day period within the month, with some individuals assigned a starting date in late September and others assigned to finish in early November. For a more detailed description of the Diary of Consumer Payment Choice, see Angrisani, Foster and Hitczenko (2017b); Angrisani, Foster and Hitczenko (2018); Greene, Schuh and Stavins (2018); Greene and Schuh (2017); Greene, O'Brien and Schuh (2017); and Schuh (2017).

About Federal Reserve Financial Services

Federal Reserve Financial Services provides payment services and seeks to foster the stability, integrity and efficiency of the nation's monetary, financial and payment systems. It offers a comprehensive suite of payment and information services to financial institutions. Visit FRBservices.org® for additional information.

FedCash Services provides strategic leadership for this key function by formulating and implementing service level policies, operational guidance and technology strategies for U.S. currency and coin services provided by Federal Reserve Banks nationally and internationally. In addition to guiding policies and procedures, FedCash Services establishes budget guidance, provides national direction for Federal Reserve currency and coin distribution and inventory management, and supports business continuity planning at the supply chain level. It also conducts market research and works with financial institutions and retailers to analyze trends in cash usage.

The Diary studies provide vital insights into how consumer payments may be changing from one year to the next. Federal Reserve Financial Services uses these insights to understand consumer cash use and anticipate cash's ongoing role in the payments landscape. This ensures FedCash Services is fulfilling the mission of meeting demand in times of normalcy and stress, maintaining the public's confidence in U.S. currency, and providing ready access to cash. Understanding the evolving role of cash in the economy is critical to fulfilling that mission.

References

1 The [CDC Declares an End to COVID-19 Public Health Emergency in May 2023](). The data informing this Diary report was collected in October 2023.

2 Cash held in one's pocket, purse or wallet is also referred to as on-person cash holdings.

3 Store-of-value holdings are defined as cash stored elsewhere that is not kept in one's pocket, purse or wallet.

4 The Diary and survey data are published annually by the Federal Reserve Bank of Atlanta and contain additional data on value spent by consumers. Please see the latest update published by the Federal Reserve Bank of Atlanta for more information.

5 The phrase "online or remotely" also is referred to as not-in-person. These are payments made with a computer, tablet or mobile phone, as well as payments sent in the mail and card payments spoken over the phone using a landline or mobile phone.

6 The hypothesis of a floor to cash is based on the reduction in cash use between 2019 and 2020 because of the COVID-19 pandemic. The key assumption: if the pandemic did not cause people to shift all their payments away from cash, then following the pandemic, any year-over-year changes in cash are likely to take place slowly, because those who used cash following the pandemic likely wanted or needed to use cash to conduct many of their payments. However, as the payments landscape evolves, the current level of demand for cash may wane, causing the current cash floor to decrease slowly.

7 The increase in payments took place for both in-person and remote payments. Among remote payments, 84% of payments were made online using an electronic device. The remaining payments were made via methods that include mail and electronic tolling.

8 The lowest share of payments made with cash occurred in 2023 due to an increased number of payments made with credit and debit cards. The lowest number of cash transactions occurred in 2020 because of the pandemic.

9 "Other" payments are made up of prepaid cards, money orders, travelers checks and transfers. "Mobile payment app" payments that were funded using the ACH network, a debit card or credit card are reclassified as the payment type used to fund the purchase. For example, if a mobile payment app with a $0 existing balance used the ACH network to fund the payment, the transaction is classified as an ACH payment in the data.

10 These conditions included a lack of opportunities to pay in person, a shift in consumer payment preference toward cards and a change in shopping behavior due to more remote and online shopping purchases.

11 Purchases and person-to-person (P2P) payments are comprised of all purchases for goods and services the participant did not define as a bill payment, as well as transfers and payments to other individuals.

12 Participants are asked to answer "yes" or "no" for whether each payment was made "in person."

13 Approximately 80% of all non-bill payments are made at grocery and convenience stores, gas stations, restaurants and general merchandise stores.

14 The exceptions are general merchandise goods and fast food, which can be ordered more easily on one's mobile device.

15 As part of the Diary study, consumers are asked which payment instrument they prefer for making in-person payments, online payments and bill payments. As cash is used for in-person payments, the analysis in this section uses data from only that question.

16 Since the pandemic, remote payments increased and respondents have increasingly reported preferring credit cards when making online payments.

17 The "Other" category in Figure 5 includes checks, prepaid cards and bank account number payments.

18 Unbanked is defined by the Federal Deposit Insurance Corp. (FDIC) as referring to individuals who do not have either a checking or savings account.

19 This share is calculated as the share of individuals who held on-person cash in their pocket, purse or wallet during one of their three assigned Diary days, as well as those who reported withdrawing or depositing cash.

20 A majority of cash payments are made by consumers who report they prefer cards.

21 This is a population average and includes those who hold $0.