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2023 Methods-of-Payment Survey report: The resilience of cash

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2023 Methods-of-Payment Survey Report: The Resilience of Cash

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Abstract

We present key results from the 2023 Methods-of-Payment (MOP) Survey, including updated payment shares based on a three-day shopping diary. Results show that measures of cash management and use have remained fairly stable since 2020, along with the estimated share of payments made online. In 2023, Canadians increased their adoption of payment alternatives such as mobile apps and Interac e-Transfer. New questions were introduced into the MOP survey instrument in 2023 to measure perceived access to cash from automated banking machines and banks.

Topics: Bank notes; Digital currencies and fintech; Financial services

JEL codes: D83, E41

Résumé

Nous présentons les principaux résultats de l'enquête sur les modes de paiement de 2023, y compris les proportions des paiements effectués avec chaque mode, actualisées sur la base de journaux d'achats de trois jours. Les résultats montrent que les mesures de la gestion et de l'utilisation de l'argent comptant sont demeurées relativement stables depuis 2020, tout comme la part estimative des paiements faits en ligne. En 2023, les Canadiens ont adopté davantage les nouveaux modes de paiement, comme les applications mobiles et Virement Interac. De nouvelles questions ont été introduites dans l'instrument d'enquête en 2023 pour mesurer l'accès perçu à l'argent comptant par la voie des guichets automatiques et des banques.

Sujets : Billets de banque ; Monnaies numériques et technologies financières ; Services financiers

Codes JEL : D83, E41

1 Introduction

This paper reports the main findings from the Bank of Canada’s Methods-of-Payment (MOP) Survey for 2023. The survey measures Canadians’ adoption, use at the point of sale and perceptions of different payment methods. Notably, the survey’s findings about cash use inform one of the Bank’s core functions—the design, production and distribution of Canada’s bank notes. The results also inform the Bank’s work on a possible Digital Canadian Dollar (see, e.g., [Huynh et al. \(2020\)](#); [Henry et al. \(2023\)](#)). The 2023 MOP is the third version of the survey since 2021 when it switched to being conducted on an annual basis ([Henry et al., 2022, 2024](#)).¹ Key findings in 2023 are as follows:

- **Cash use has been stable over the last several years.** One in five purchases (20%) was made with cash in 2023, similar to estimates from 2020–22 that ranged from 21% to 22%. The small decline in 2023 was not because of fewer cash purchases made but from relatively more card payments being made. Cash accounted for 11% of the value of all purchases in 2023, which is also similar to findings from recent years. The stability of cash use was mirrored in key metrics of cash management—rates of holding cash and making cash withdrawals from different sources have also been consistent in recent years.
- **Canadians expanded their payment portfolios in 2023.** Payment alternatives to cash and cards were used by more Canadians in the past year relative to 2022. For example, almost 45% of survey respondents reported using some type of mobile app to make a payment, up from 37% in 2022. Interac e-Transfer was used by 58% of Canadians in the past year, an increase of 7 percentage points. Holdings of cash and ownership of payment cards did not decline, suggesting a wider segment of Canadians who added new payment methods to the ones they already use.
- **Minimal growth in online purchases since the start of the COVID-19 pandemic.** The previous MOP survey report ([Henry et al., 2024](#)) documented the sharp rise in online purchases associated with the onset of the COVID-19 pandemic in 2020. However, payment diary data for the last four years show that the estimated share of online purchases has levelled off at around 14% in terms of volume, and just over 21% in terms of value. This trend mirrors Statistics Canada data on e-commerce retail sales as a share of total retail sales. While consumers recorded slightly more online purchases in the 2023 MOP diary, the number of in-person purchases also increased from the last two years.

The remaining sections of this report are as follows. Section 2 briefly describes the MOP and other surveys about payment methods that the Bank has conducted recently. Section 3 reviews trends in ownership and views of payment instruments. Section 4 discusses results from the MOP payments diary about the use of payment methods for day-to-day purchases. Finally, section 5 concludes.

¹From 2009 to 2021 the MOP was conducted on a four-year cycle. For more, see [Arango and Welte \(2012\)](#); [Henry et al. \(2015, 2018\)](#).

2 Methods-of-Payment Survey

2.1 Overview

The Bank conducted its sixth MOP survey in 2023. This section provides an overview of the MOP, which consists of two fundamental components:

- a survey questionnaire (SQ) that asks participants to report key facts about their cash holdings and management, ownership of various payment instruments and access to financial services
- a diary survey instrument (DSI) that asks participants to record their purchases and cash withdrawals for three days

For the DSI, respondents are advised to record typical day-to-day purchases at the point of sale and to exclude business expenses, donations and gifts, as well as recurring or pre-authorized payments such as bills and rent or mortgage payments. Upon recording a purchase in the diary, respondents provide details such as the amount, payment method used, where the purchase was made and if it occurred online or in-person.

Fieldwork is conducted in collaboration with survey partner Ipsos. Data collection for the 2023 MOP was conducted exclusively online between October and early November 2023. The survey could be completed on any device with internet access, consistent with data collection practices for the 2022 and 2021 MOP surveys.²

Around 4,000 individuals completed the 2023 MOP SQ, and approximately two-thirds of them completed the DSI, resulting in over 7,000 recorded purchases. Both the SQ and DSI sample sizes are large enough to fill quotas stratified by age, gender and province. The samples are then calibrated to match the Canadian population across key demographics.³

Table 1 shows a timeline of the MOP and other consumer-focused payments surveys designed and conducted by the Bank, along with their basic features. The Bank increased its survey efforts in 2019 with the addition of the Cash Alternative Survey (CAS) and Cash Pulse Survey (CPS), which both featured key components from the MOP. These complementary surveys served as timely tools to monitor how consumers adjusted their cash use and payment behaviours during the pandemic.⁴ Selected results from these surveys are included in this report.

2.2 2023 updates

The contents of the MOP survey instruments are regularly reviewed and updated to reflect timely policy questions and capture the emergence of new payment methods as they become available.

²Data collection for the 2009, 2013 and 2017 MOP surveys featured paper-based mail-out invitations and survey instruments in addition to an online component. Starting in 2021, the MOP became an exclusively online survey.

³See [Chen et al. \(2018\)](#) for a comprehensive overview of the calibration methodology, and Appendix A.2 of [Henry et al. \(2022\)](#) and [Henry et al. \(2024\)](#) for details on its implementation in the most recent MOP surveys.

⁴The CAS and CPS predominantly featured questions from the MOP SQ. The CAS conducted in November 2020 also included a payments diary. See [Chen et al. \(2021a\)](#) for estimates from the CAS diary data.

To fulfill its mandate of supplying bank notes to satisfy public demand, the Bank monitors the cash distribution infrastructure to understand Canadians’ access to cash. Anecdotally, news stories about the closure of bank branches, particularly in rural communities, speak to a concern that certain Canadians may face difficulties getting the cash they need to make purchases.⁵ Due to the relationship between consumers withdrawing and using cash, it is important to quantify the impact of the change in access to cash on consumers’ cash usage and demand (Huynh et al., 2024).

Two new questions were therefore added to the MOP SQ about Canadians’ access to cash. First, we asked respondents to rate how easy or difficult they find it to get to an automated banking machine (ABM) or a bank branch when they need to withdraw cash. Answers reflect respondents’ subjective perceptions about their ability to access cash. Second, for those who made a recent cash withdrawal, we asked whether they combined it with other activities such as shopping or commuting to work. This type of behaviour, known as trip chaining, illustrates how some consumers may behave strategically to minimize their cash withdrawal costs.

Chen et al. (2023) find that the vast majority of Canadian households live within 5 kilometres of a cash access point and that the number of ABMs increased between 2019–22.⁶ However, rural Canadians have to travel twice as far as the national average, and the number of bank branches decreased during the same period, largely due to closures in rural areas. The new questions in the MOP survey will help us better understand how Canadians may experience these differences, providing additional context to objective measures of access to cash. In this report, we provide only high-level estimates from the new question about perceptions on access to cash. More detailed research using both questions is ongoing.

In addition to supplying bank notes, the Bank oversees retail payment service providers to “reduce risk [and] foster innovation and competition” (Morrow, 2023).⁷ As of October 6, 2022, Canadian businesses can apply a fee on credit card payments of up to 2.4% of the purchase value as part of a settlement in a class-action lawsuit. In the 2022 MOP, we introduced questions to the DSI that asked respondents to record instances of businesses offering discounts or charging fees to use a particular method of payment. These questions were carried over to the 2023 MOP. To date, credit card purchase fees were recorded in less than 2% of transactions, amounting to less than a few hundred observations. While we will continue to monitor this activity, we do not provide an in-depth analysis in this report.

3 What is in your wallet?

In this section we discuss the methods of payment Canadians have available to them. These are typically cash and payment cards, but they can also include payment innovations that don’t exist physically inside a wallet. We provide results from previous surveys since 2009

⁵See, for example, the announced closures of bank branches in rural communities in [Atlantic Canada](#), as well as significant reductions in infrastructure by a major credit union in [Ontario and Quebec](#).

⁶For other access to cash research see: [Chen and Strathearn \(2020\)](#); [Chen et al. \(2021b,c, 2022\)](#); [Chen and Felt \(2022\)](#).

⁷The [Retail Payment Activities Act](#) received royal assent in 2021, which extended the Bank’s mandate to oversee financial market infrastructures to [payment service providers](#).

to document long-term trends, but focus on highlighting changes from 2022 to 2023.

3.1 Cash management

Cash holdings in the MOP are separated into two types:

- cash on hand is the cash that Canadians hold in their wallets, purses or pockets
- other cash holdings is any cash held outside wallets, purses or pockets, such as at home or in a vehicle

Consumers are most likely to use cash on hand for purchases. The first column of **Table 2** shows the average amount of cash on hand held by Canadians who hold some amount of cash. Cash on hand increased by \$10 on average from 2022 to reach \$140 in 2023. The second column in **Table 2** shows the percentage of Canadians with no cash on hand. This measure declined from 21% in 2022 to 20% in 2023, meaning that 80% of Canadians carried some amount of cash on them in 2023.

Trends in overall demand for cash in Canada (**Chart 1**) mirror long-term trends in cash on hand captured by the MOP. Starting in 2009, increased demand for high-value denominations drove increases in total cash demand, as measured by the value of bank notes in circulation as a percentage of nominal gross domestic product (GDP). Cash demand peaked at the onset of the COVID-19 pandemic in 2020 and remained relatively high the past three years. Previous MOP survey reports (Henry et al., 2022, 2024), using data from complementary surveys, also documented increased consumer cash holdings at the onset of the pandemic. For example, average cash on hand reached a high of \$171 in April 2021, and consumers tended to hold more cash when COVID-19 case counts were on the rise.

Chart 2 shows how the level of cash on hand has changed relative to inflation. It shows both nominal and real cash on hand estimates from the MOP, using 2009 as the base year. The fact that nominal cash holdings were relatively constant from 2021 to 2022 (\$127 and \$130, respectively) actually represented a decline in real terms—during this same period, the inflation rate increased from 4.7% to 6.8%. The increase of \$10 in nominal cash on hand from 2022 to 2023 translates to stable cash on hand in real terms.

A combination of two factors caused the nominal increase of \$10 in cash on hand from 2022 to 2023.⁸ Among Canadians holding cash, we observed a slightly higher number of \$50 notes held—an increase of 0.1 bank notes from 2022, on average—accounting for half of the nominal increase. Additionally, slightly higher proportions of consumers that held cash reported holding \$50 and \$100 notes: 24% held a \$50 note (compared with 23% in 2022) and 14% held a \$100 note (compared with 13% in 2022). These increases also contributed to the slightly higher average cash on hand observed in 2023. In general, cash holdings by denomination have not changed much over the last three years (**Table 3**).

The final two columns of **Table 2** show similar measures for other cash holdings, which is any cash held outside wallets, purses or pockets, such as at home or in a vehicle. Other cash is more likely to be used as a store of value rather than for purchases. We account for

⁸We do not assess these changes in terms of their statistical significance. Doing so would require calculating variance estimates. For more, see Chen et al. (2018, 2016).

large outliers in the data by reporting the median instead of the mean value of other cash held. For 2023, the estimated median value for other cash (among those holding some) was \$240, reflecting a \$40 increase from 2022. About 80% of Canadians hold no other cash, down 2 percentage points from 2022.

Cash withdrawals from ABMs, bank tellers and cash-back on debit card purchases are presented in **Table 4**. Columns 1, 4 and 7 show the average number of withdrawals made in the past month from each channel. Columns 2, 5 and 8 show the percentage of Canadian who made a withdrawal in the past week. These two measures provide insight into how often Canadians withdraw cash.

The measures show that consumer cash withdrawal behaviour was mostly unchanged in 2023. The most popular method for obtaining cash continued to be withdrawals from ABMs, with Canadians making such withdrawals an average of 1.9 times per month—about once every other week. About 30% of Canadians made an ABM withdrawal in the past week, which is fairly consistent with results since 2017. In comparison, bank tellers are a less popular and less frequently used channel for cash withdrawals. Canadians withdrew money through bank tellers 0.4 times per month on average in 2023 and 6% of Canadians did so in the past week. Similarly, Canadians used cash-back at a relatively lower rate. Cash-back withdrawals were made an average of 0.5 times per month in 2023 and only 5% of Canadians made this type of withdrawal in the past week.

Meanwhile, average withdrawal amounts from ABMs have been stable over the last three years, but increased in 2023 for withdrawals through bank tellers and cash-back. The average ABM withdrawal was \$153 in 2023, similar to the \$156 in 2022 and \$154 in 2021. Withdrawals using bank tellers rose from an average of \$226 in 2022 to \$269 in 2023, an increase of over \$40. The average bank teller withdrawal in 2023 was more similar to that observed before the pandemic (\$289 in 2017), a decline from the average of \$334 in 2021. Average cash-back withdrawal amounts rose from \$54 in 2022 to \$78 in 2023, which is the highest amount observed since 2009.⁹

3.2 Cards

In 2023, payment cards remained the most popular payment method adopted by Canadians. **Table 5** shows the long-term trends in the ownership of debit and credit cards, with results from previous MOP surveys since 2009. Debit card ownership continues to be nearly universal among adult Canadians, with 98% reporting they owned a debit card in 2023. This estimate has been basically constant since 2009. The vast majority of Canadians also own a credit card, with 89% reporting they owned one in 2023. Credit card adoption levels have been nearly flat since 2017.

The % *linked* columns in **Table 5** show the percentages of Canadians who have linked one of the indicated payment cards to either an online payment account or a mobile payment app. Among Canadians with a debit card, 23% have linked at least one card. This is 3 percentage points higher than in 2022, and a further increase from when this question was introduced in 2021. Meanwhile, 42% of credit card holders have linked at least one of their

⁹Note that the methodology for calculating withdrawal estimates changed in 2021 because of adjustments to the question about cash withdrawals. Estimates in **Table 4** reflect our best efforts to harmonize these changes, making the results comparable. See the table notes for more details.

credit cards, which is about 6 percentage points higher than in 2022 and nearly double the rate over the same period for linked debit cards.

The last two columns of **Table 5** describe the adoption of physical stored-value cards (SVCs). These cards include:

- store-branded prepaid cards (SVC-S) that are loaded with funds that may be used only at the store indicated on the cards ¹⁰
- prepaid credit cards (SVC-M) that are loaded with funds that can be used at various locations because credit card networks process the payment ¹¹

Both types of cards experienced a substantial drop in ownership between 2017 and 2021 and have remained at these lower levels since then. In 2023, SVC-S ownership was at 11% and SVC-M ownership was at 9%, both slightly higher than their lowest points in 2021.

Table 6 displays estimates that describe costs associated with owning a debit card or credit card. In 2023, 62% of Canadians with a bank account reported having a monthly fee associated with their account. The share of bank account holders with a fee has fallen since 2017, but the 2023 estimate was similar to 2022. Some bank account holders have their fee waived or refunded, which was the case in 2023 for 34% of Canadians with a monthly bank account fee. While this is a slightly higher proportion than in 2022, the share remains at below the level recorded in 2017.

Finally, the distribution of bank account fees has not substantially changed from 2022. Most monthly fees (54%) are between \$5 and \$15, followed by accounts with fees over \$15 (30%) and those with fees below \$5 (16%). Compared with 2017, the share of accounts with fees below \$5 fell by half. Overall, our findings on bank account fees in last year’s report remain true: while fewer Canadians have a main bank account with a fee than in 2017, those who do have a fee are more likely to have paid it and these fees have increased.

Table 6 also contains information relevant to potential costs associated with credit card ownership. The final column *Revolver* shows the percentage of credit card owners who revolved on their credit card debt in the past month. A revolver is a credit card owner who does not pay off their entire monthly balance and is charged interest. Consumers may revolve on their credit card debt because they lack enough funds to pay off the full balance, or use it intentionally as a loan.¹² In 2023, 29% of Canadians with a credit card revolved their debt in the past month. This is slightly higher than the 27% observed in 2022, but around the same levels estimated since 2013. The share of Canadians who have revolved on their credit card debt in 2023 remains notably lower than the estimated 38% of Canadians who revolved in 2009.

3.3 Alternatives to cash and cards

Finally, we discuss Canadians’ adoption of payment alternatives to cash and cards, which include Interac e-Transfer, online payment accounts, cryptocurrency and payments via a

¹⁰An alternative name for this type of card is a closed-loop prepaid card. For example, see [Payments Canada \(2023\)](#).

¹¹An alternative name for this type of card is an open-loop prepaid card. For example, see [Payments Canada \(2023\)](#).

¹²See [Greene and Stavins \(2022\)](#) for a recent in-depth analysis of revolving behaviour by US consumers.

mobile application, or app.¹³ The use of these payment alternatives has generally increased over the past decade (Henry et al., 2024), and the results of the 2023 MOP survey show this trend has continued since 2022. **Chart 3** shows the share of Canadians who have used these payment methods in the past year, which we use to measure adoption. This question was introduced into the MOP survey in 2022, meaning that **Chart 3** compares estimates from 2022 and 2023 only.

The most popular payment alternative is e-Transfer with an estimated 58% of Canadians having used it in the past year, an increase of about 7 percentage points from 2022. The payment alternative with the second highest adoption rate is online payment accounts (e.g., PayPal) at 35% of Canadians. Less than 3% of Canadians have used a cryptocurrency (e.g., Bitcoin) as a payment method, roughly the same as in last year’s survey.

Mobile comprises four types of mobile apps that can be used to make purchases:

- bank account management apps (e.g., TD Bank or Scotiabank app)
- digital wallet apps (e.g., Apple Pay or Google Pay)
- payment account apps (e.g., PayPal accessed through an app)
- store-branded prepaid card (SVC-S) apps (e.g., Starbucks app)

Overall, 45% of Canadians reported adopting a mobile app. This is a notable increase from the 2022 survey where 37% of Canadians reported using a mobile app as a payment method.

Not only has the overall rate of adoption for *Mobile* increased, but so too have the rates for each type of mobile app included in the survey. Bank account management apps, which allow users to access payment services like Interac e-Transfer, remain the most popular mobile payment method. In 2023, 26% of Canadians used a bank account management app to make a purchase in the past year, an increase of about 5 percentage points from the 2022 survey. Digital wallet apps had the second highest adoption rate in 2023 at 25%, an increase of 7 percentage points from 2022. Finally, 12% and 13% of Canadians in 2023 used payment account apps and SVC-S apps, respectively, in the past year.

Felt et al. (forthcoming) study consumer mobile payment adoption in Canada using data from a syndicated survey conducted by Ipsos called the Digital Wallet and Payment Trends (DWPT). In 2022, they found that 16% of adult Canadians were “mobile payers”—meaning they had used a mobile payment app to make a purchase in the past three months.¹⁴ The DWPT estimate is similar to the MOP estimate that 18% of Canadians used a digital wallet app in 2022.

Since the 2022 MOP survey, adoption rates have increased across all payment alternatives. In fact, the average number of payment alternatives Canadians used in the past year

¹³We consider mobile apps as alternatives to cash or physical payment cards, even though certain apps may link to an underlying payment card to facilitate a payment. See the related discussion in Appendix E of Henry et al. (2024).

¹⁴The question in the DWPT mentioned Apple Pay and Google Pay as examples of mobile payment apps. If the respondent selected yes, follow-up questions asked about various other types of apps, such as bank account apps and prepaid card apps. Therefore, the MOP differs from the DWPT by presenting four different types of mobile payment apps to the respondent at once and by having a different reference period (one year versus three months).

increased from 1.4 in 2022 to 1.7 in 2023. However, this does not necessarily suggest that payment alternatives are substituting for cash or cards. As shown in section 3.1, the share of Canadians who hold cash on hand increased slightly in 2023. Furthermore, section 3.2 shows that the share of Canadians holding a debit and credit card in the 2023 survey was almost the same as in recent years. Instead, the recent growth in the adoption of payment alternatives suggests that consumers are adding new options to their portfolio of payment methods.

3.4 Views of cash and alternatives

Results from the SQ also provide insights into how Canadians perceive using cash and other payment methods, and their ability to access cash.

Chart 4 shows results from a question introduced in a complementary payment survey in 2019 (see section 2), which was subsequently incorporated into the MOP SQ. The question asks Canadians whether they have plans to stop using cash in the future.¹⁵ Responses are divided into three categories: no plans to go cashless, will eventually go cashless and are already cashless. The percentage of Canadians claiming they are cashless peaked at 19% in April 2020, just after the onset of the COVID-19 pandemic. Since then, the percentage has settled around 13%, including most recently in 2023. Meanwhile, 80% of Canadians in 2023 said they have no plans to stop using cash, which was the same as in 2022.

Chart 5 shows Canadians’ perceptions about certain features of different payment methods, for which we have data going back to 2013. The pandemic was associated with a subtle change in the way Canadians view cash. In particular, Canadians had a slightly less positive view about its ease of use and wide acceptance by merchants. That being said, cash is still viewed overwhelmingly positively along these dimensions, as well as with respect to its security and low cost. Similarly, over 80% of Canadians viewed contactless payments as being always or almost always accepted in 2023, the highest level ever recorded in the MOP.

Finally, the 2023 MOP included new questions that gauge how Canadians feel about their ability to access cash. For example, the MOP survey asked: “When you need to withdraw cash, how easy or difficult is it to get to an [ABM/bank]?” Respondents rank their views on a scale of one to five. **Chart 6** presents the distribution of responses to this question, both overall and by two associated variables of interest.¹⁶

Overall, a large majority of Canadians feel it is easy or very easy to access cash from either an ABM or a bank (68% and 63%, respectively). However, over 10% reported that it was difficult or very difficult. These perceptions may relate to a respondent’s lived experiences with making a cash withdrawal. For example, those who made a cash withdrawal in the past week tend to rate their ability to access cash more positively compared with those who did not. Additionally, respondents who claim to be cashless—to have “already stopped using cash”—were twice as likely to see making a cash withdrawal as difficult or very difficult than those who still use cash.

¹⁵Lane (2020, 2021) identified a potential scenario in which Canadians would be unable to use cash for a wide range of transactions as one that could warrant introducing a Central Bank Digital Currency in Canada. See also Engert et al. (2018); Engert and Huynh (2022).

¹⁶Respondents can also answer “Unsure.” For the chart we exclude the small number of “Unsure” responses from the calculation.

4 How do you pay?

In this section we discuss recent trends in the payment choices of Canadian consumers, primarily based on data from the 2023 MOP DSI. The DSI asks respondents to record their purchases and corresponding choice of payment over three days. As in previous years, we instruct respondents to exclude bill payments, donations and business expenses from their DSI entries. This leaves us with a dataset of typical retail payments for both in-person and online purchases of goods and services.

From these data, we report two key statistics that summarize Canadians' payment choices:

- the volume share for each payment method, meaning the share of purchases for which a given payment method was used relative to the total number of purchases reported in the DSI
- the value share for each payment method, meaning the share of Canadian dollars spent using a given payment method relative to the total dollar amount spent

By observing both types of payment shares, we obtain a comprehensive view of the choices that Canadians make at the point of sale.¹⁷ To better understand these relative payment shares, including changes over time, we also report and discuss the average number and value of transactions calculated from the DSI, and provide complementary evidence based on respondents' recall of payments in the past week from the SQ.

4.1 Payment shares

Chart 7 shows the volume and value shares for each method of payment. The shares are calculated based on data from payments diaries dating back to 2009, which include both in-person and online purchases.

In 2023, cash was used in 20% of the purchases recorded in the diaries, which is similar to the share observed since 2020. The volume share declined by 2 percentage points from 2022 and is below the previous low of 21% observed in late 2020, making 2023 the year with the lowest observed volume of cash payments since the first MOP survey in 2009. However, cash's volume share increases to 23% if we restrict the calculation to in-person purchases only.¹⁸ Overall, cash purchases accounted for 11% of spending in 2023, declining from 13% in 2022. Nevertheless, the value share remains above the low of 9% observed in 2020.

Debit cards accounted for 25% of transaction volumes in 2023, an increase from 21% in 2022. As well, the value share of debit purchases increased by 4 percentage points from

¹⁷The methodology for calculating payment shares was updated in 2022 to better reflect the range of available payment methods. See Appendix E of [Henry et al. \(2024\)](#) for details and for a comparison of the shares from the 2009, 2013, 2017, 2020, 2021 and 2022 DSIs calculated using the previous and updated methodologies.

¹⁸The cash volume share among in-person transactions shows the same trend as the overall share that includes online transactions. Since 2020, the share of in-person cash payments is about 3 percentage points higher than the overall estimate because cash transactions are not typically made online. Respondents do report using cash online when they make purchases from merchant apps or online marketplaces and pay in-person. These cash purchases accounted for about 2% of the volume of online transactions in 2023.

2022, representing 23% of the total value of purchases in 2023. Increases in the volume and value shares of debit cards can be largely attributed to a rise in contactless payments. Over 70% of debit payments in 2023 were contactless, up from 63% in 2021 and 2022. Contactless payments amount to roughly half of the total value of debit card purchases, and 13% of the value of all purchases (up from 9% in 2022). Overall, the volume and value shares of contactless debit card payments in 2023 are at the highest levels observed since 2009.

Credit cards remained Canadian consumers' most preferred method of payment in 2023, making up 48% of all transactions and 59% of the total value. The volume and value shares of credit cards are similar to 2022. Credit cards were used in 65% of online purchases in 2023, making credit cards the preferred way to shop online. Over two-thirds of all credit card payments were contactless, accounting for 33% of all purchases in the diary. While the volume share of contactless credit card transactions is the same as it was in 2022, the value share increased from 27% to 32%. For the first time since 2009, the value of contactless credit card payments exceeded that of payments made online or by chip and PIN, or personal identification number.

Other payments options include those made with cheque, stored-value cards (i.e., store-branded and prepaid credit cards), Interac e-Transfer, online payment accounts, cryptocurrencies and coupon or store points. This category comprised 8% of transaction volume and 7% of value in 2023, which are decreases in both shares from 2022. Mobile payments were the most used of the payment methods captured in this category, making up 3% of the transaction volume in 2023.¹⁹ Online payment accounts represented 1% of transactions in 2023, down 1 percentage point from 2022. Store-branded prepaid cards and Interac e-Transfer were used in similar proportions to the previous year, with each comprising about 1% of the volume share. The remaining 2% of transactions were paid for with prepaid credit cards, cryptocurrencies and coupons or store points, a share that is similar to that observed in 2022.

Finally, **Chart 8** shows the shares of payments made online that were recorded in the MOP DSI. An increase in the share of online purchases may reduce cash use because cash payments are typically not made online. As a point of comparison, **Chart 8** also shows publicly available data from Statistics Canada on the value of retail purchases, including the corresponding share of e-commerce.²⁰ Retail purchases are defined as those classified by the North American Industry Classification System (NAICS) category 44-45. We would not expect the value shares from the MOP and Statistics Canada to align exactly. While the MOP DSI captures retail trade purchases, it also captures purchases that do not fall under the NAICS 44-45 categorization. However, comparing high-level trends in online payments from another data source is useful, especially because of how those trends relate to the COVID-19 pandemic.

While the relative share of online payments increased notably at the onset of the pandemic, the share has stayed relatively flat since then. In volume terms, 14% of payments recorded in the DSI were made online, accounting for just over 21% of the value of purchases.

¹⁹This represents the share of purchases where a mobile device was used to pay, even though the underlying payment method could be a debit or credit card linked to a digital wallet application. For more details, see Appendix E of [Henry et al. \(2024\)](#).

²⁰Statistics Canada data on the value of retail purchases come from Table 20-10-0056-01, "Monthly retail trade sales by province and territory (x 1,000)."

Both of these estimates were similar to what was observed from payment diaries completed from 2020 to 2022. The Statistics Canada data show a similar trend of an increase in e-commerce sales at the onset of the pandemic.

Overall, the payment shares have not changed substantially in the past four years:

- Cash remained an important part of the payment mix in 2023.
- Canadians continued to use debit and credit cards for most of their purchases, increasingly relying on contactless payments.
- Canadians used alternative methods of payment, such as Interac e-Transfer and mobile payments, at similar relative rates as in previous years.

As documented in [Henry et al. \(2024\)](#), a key difference between these recent data and previous MOP diaries was the overall share of payments made online, which jumped from 3% in 2017 to 13% in 2020. Since then, the share of payments made online has been mostly stable, coming in at 14% in 2023.

4.2 Volume and value of payments

While the volume and value shares help explain Canadians' relative payment choices, they do not tell the whole story. For example, the cash volume share may decrease because of a decline in the number of cash transactions per consumer, all else equal. However, it could also decline if Canadians make the same number of cash transactions but make more card transactions. To better understand trends in the data, we complement the payment shares with estimates of the average number and value of transactions made over the three days of the diary.

Chart 9 shows the average number of purchases made per person.²¹ The average number of cash transactions was 0.7 in 2023, which is similar to that observed since 2020 (**Chart 9a**). Historically, cash transactions fell from 2.7 in 2009 to 1.4 in 2017. By contrast, the number of credit card transactions has been relatively stable since 2013, ranging from 1.4 to 1.6. The number of debit card transactions decreased when comparing 2009–17 with 2020 and onwards, but increased slightly from 0.6 in 2022 to 0.8 in 2023. Together, these results suggest that the small decline of 2 percentage points in the cash volume share between 2022 and 2023 was because consumers made relatively more card payments even while the overall number of cash payments also increased.

Chart 9b also shows the breakdowns of the number of purchases completed in-person and online per person. Overall, the number of in-person purchases per person has declined since 2009. While the number of online purchases per person has gone up over that period, the increase has not been enough to offset the simultaneous decline in the number of in-person purchases. In 2023, both channels displayed increases from the previous two MOP surveys. In other words, retail activity increased in 2023 compared with 2021 and 2022.

Chart 10 shows the average dollar values of different types of purchases broken down by the method of payment (**Chart 10a**) and by venue (in-person versus online, **Chart 10b**).

²¹This calculation considers only respondents who completed all three days of the diary.

The average cash purchase was \$26 in 2023, down from a high of \$32 in 2022. Cash transaction values were higher over the past three years than estimates from 2009–20. Meanwhile, the value of both debit and credit card purchases also fell between 2022 and 2023, with the value of credit card purchases declining relatively more than the value of debit card purchases. This difference is one factor that explains the value share of debit cards rising in 2023.

4.3 Use in the past week

Finally, we also complement the estimates of payment shares from the diary with recall-based estimates from the MOP SQ. **Chart 11** shows the percentages of Canadians who reported using each of the indicated payment methods in the past week “to make a purchase from a store or business (in-person or online).”

The results broadly align with the payment shares in the DSI with cash, debit and credit cards by far the most popular methods (**Chart 11a**). While over 60% of respondents used credit cards in the past week, Canadians used cash and debit at similar rates (49% for both). Given that the debit card volume share from the DSI is higher than the cash share, this suggests that debit cards are used more intensively than cash, which also aligns with the discussion in the previous section. However, the rate of cash use in the past week actually increased between 2022 and 2023, rising from 44% to 49%.

Chart 11b shows that the use of many payment alternatives—those found in the *Other* category—increased in 2023, mirroring the higher adoption rates discussed in section 3.3. For example, Interac e-Transfer was used by 19% of Canadians, up from 17% in 2022. All types of mobile apps were also used more frequently in 2023. Overall, 26% of Canadians used at least one mobile app to make a purchase in the past week. The volume share among these alternative methods of payment actually decreased slightly in 2023 (from 9% to 8%), suggesting that a wider range of Canadians are using these methods to complement rather than to substitute cash and cards.

5 Conclusion

Cash demand, use and access are the three key components of the cash ecosystem in Canada.

Cash demand is measured as the Bank of Canada supplying bank notes at the wholesale level to financial institutions, so that in turn they can meet public demand from consumers, merchants and others. Demand for cash was stable in the decades before the COVID-19 pandemic. Between 1970 and 2020, the value of notes in circulation was between 3% and 4% of nominal GDP. Demand increased sharply at the onset of the COVID-19 pandemic in 2020, peaking at over 4% of GDP. While demand has declined over the last three years, it remains above pre-pandemic levels.

At the retail level, consumers and merchants are the major players who determine how cash is used. The market for payments is two-sided, where consumer usage drives merchant acceptance and vice-versa. Research by [Huynh et al. \(2022\)](#) also reveals the presence of network externalities. Against this background, the MOP and other Bank surveys serve as tools for understanding consumer use and holdings of cash.

The Bank has increased the frequency of these surveys to monitor the effects of the pandemic and to better track changes in the payments landscape more broadly. In particular, the Bank has conducted the MOP on an annual basis since 2021. Key results presented in this report show that consumers use of cash remained resilient in 2023 despite effects arising from the COVID-19 pandemic. Canadian consumers continue to withdraw and use cash on a regular basis, and it remains a relevant payment method.

Meanwhile, the Bank also conducts surveys of small and medium-sized businesses in Canada (Fung et al., 2018; Welte and Wu, 2023; Welte et al., 2024). This related work shows that cash acceptance remains nearly universal—96% of such businesses accepted cash as a means of payment in 2023, and 92% reported having no plans to stop using cash. At the same time, payment card acceptance increased during the pandemic, reaching almost 90% in 2023. These trends reflect consumers’ increased use of contactless payments and other digital options.

Finally, access to bank branches and ABMs facilitates robust consumer use and merchant acceptance of cash.²² Chen et al. (2023) show that access to cash remained high throughout the pandemic and into 2022, using both distance- and travel-based metrics. For example, the vast majority of Canadians can access an ABM (91%) or a bank branch (84%) within a 5km drive.

However, the evidence also reveals some changes to the infrastructure that Canadians rely on to access cash. These changes come mainly in the form of bank branches being closed and replaced with ABMs—particularly, privately owned ABMs that charge transaction fees. Further, some regions of the country may face higher rates of branch closures, especially a few rural areas. Early research by Chen and Xiao (2024) shows that consumers may behave strategically to manage the costs associated with a cash withdrawal, which has implications for understanding access to cash for these consumers. The authors’ work shows evidence of trip-chaining, where consumers link their visits to an ABM or bank branch with other necessary daily activities such as shopping or commuting. Similarly, Chen et al. (2021b) show that consumers will choose to drive rather than walk when a cash access point is more than 1.5km away. This suggests that trip-chaining could play an increasingly important role if the number of cash access points declines.

Cash remains resilient despite the negative shock of the COVID-19 pandemic on its potential use at in-person venues (Dahlhaus and Welte, 2021; Henry et al., 2022). The Bank continues to monitor and conduct research on cash demand, use and access.

²²Engert et al. (2019) highlight the role of the cash infrastructure—specifically, cashless bank branches—in understanding differences in cash demand between Sweden and Canada. Their work also demonstrates the inter-relationship between cash access and overall cash demand.

Tables

Table 1: Bank of Canada consumer survey research program

Date	Survey	Acronym	n - survey	n - diary	Mode
Nov. 2009	Methods-of-Payment	MOP	6,868	3,405	Paper + online
Nov. 2013	Methods-of-Payment	MOP	3,663	2,599	Paper + online
Dec. 2016	Bitcoin Omnibus Survey	BTCOS	1,997		Online
Nov. 2017	Methods-of-Payment	MOP	3,123	2,187	Paper + online
Dec. 2017	Bitcoin Omnibus Survey	BTCOS	2,623		Online
Dec. 2018	Bitcoin Omnibus Survey	BTCOS	1,987		Online
Aug. 2019	Cash Alternative Survey	CASW0	2,235		Online
Dec. 2019	Bitcoin Omnibus Survey	BTCOS	1,987		Online
Apr. 2020	Cash Alternative Survey	CASW1	4,192		Online
Jul. 2020	Cash Pulse Survey	CPS	1,998		Online
Nov. 2020	Cash Alternative Survey	CASW2	3,893	2,084	Online
Apr. 2021	Cash Alternative Survey	CASW3	2,565		Online
Aug. 2021	Cash Alternative Survey	CASW4	3,500		Online
Nov. 2021	Methods-of-Payment	MOP	4,725	2,866	Online
Aug. 2022	Cash Pulse Survey	CPS	2,002		Online
Nov. 2022	Methods-of-Payment	MOP	5,607	1,779	Online
Nov. 2023	Methods-of-Payment	MOP	3,970	2,484	Online

Note: This table documents basic features of the consumer-focused payment surveys conducted by the Bank of Canada. The Currency Department's Economic Research and Analysis team designed the surveys, which were implemented in collaboration with survey partner Ipsos.

Table 2: Cash holdings: 2009 to 2023

	Cash on hand		Other cash	
	mean \$	% zero cash	median \$	% zero cash
2009	72	5.1	100	47.3
2013	81	6.2	300	64.7
2017	106	11.1	215	56.2
2021	127	25.1	200	78.2
2022*	130	20.9	200	82.5
2023*	140	19.6	240	80.4

Note: *Cash on hand* is the amount of cash in a respondent’s wallet, purse or pockets. *Other cash* is the amount of cash not held in a bank, but stored elsewhere such as at home, in a car, etc. Dollar values for mean *cash on hand* and median *other cash* are calculated using only respondents who reported a positive amount of each respective type of cash. The asterisk (*) signifies that the % *zero cash* calculation excludes respondents who selected “Prefer not to answer” when asked about their cash holdings. In the 2022 and 2023 surveys, 10% and 9% of respondents selected “Prefer not to answer,” respectively.

Table 3: Cash on hand by denomination: 2009 to 2023

	\$100	\$50	\$20	\$10	\$5
	%	%	%	%	%
2009	5	14	83	56	75
2013	4	11	71	48	62
2017	9	17	68	47	54
2021	12	23	73	50	65
2022*	13	23	74	49	66
2023*	14	24	74	50	69

Note: This table shows the percentages of respondents holding a given denomination, among those who reported having a positive amount of cash on hand. *Cash on hand* is the amount of cash in a respondent’s wallet, purse or pockets. The asterisk (*) signifies that the % calculation excludes respondents who selected “Prefer not to answer” when asked about their cash holdings. In the 2022 and 2023 surveys, 10% and 9% of respondents selected “Prefer not to answer,” respectively.

Table 4: Cash withdrawals: 2009 to 2023

	ABM			Bank teller			Cashback		
	mean #	% made w/d	avg. \$	mean #	% made w/d	avg. \$	mean #	%	avg. \$
2009	4.3	50.0	113	1.6	18.1	236	1.9	19.8	60
2013	2.7	37.0	118	0.7	8.7	236	0.7	8.3	43
2017	2.3	27.0	140	0.6	3.1	289	0.9	7.9	56
2021*	1.7	28.1	154	0.4	5.8	334	0.2	3.4	72
2022*	1.8	28.7	156	0.4	5.5	226	0.3	4.4	54
2023*	1.9	29.9	153	0.4	6.0	269	0.5	4.8	78

Note: This table shows measures of cash withdrawals made from automated banking machines (ABM), through a bank teller or by cash-back using a debit card. The *mean #* columns show the average number of withdrawals made in the past month. The 2021 and 2022 estimates are converted to monthly by multiplying by 4.345, which is the average number of weeks in a month. The *% made w/d* columns reflects the percentage of respondents who made a withdrawal in the past week. The asterisk (*) signifies that there were changes to the cash withdrawal questions, most notably in 2021–23 versus prior years. In 2009, 2013 and 2017, we consider a respondent to have made a withdrawal in the past week if they made at least three withdrawals in the past month. Beginning in 2021, the question asked directly about withdrawals made in the past week. The *avg. \$* columns show the average value of a withdrawal. In 2009, 2013 and 2017, the average was based on a question that asks about a “typical withdrawal.” Between 2021 and 2023, the average was calculated based on the total amount withdrawn in the past week divided by the number of withdrawals made.

Table 5: Card ownership: 2009 to 2023

	Debit		Credit		SVC-S	SVC-M
	% own	% linked	% own	% linked	% own	% own
2009	97		80			23
2013	98		82		27	12
2017	99		89		27	21
2021	98	17	87	31	7	7
2022	98	20	90	36	8	9
2023	98	23	89	42	11	9

Note: This table shows the rates of payment card ownership for debit, credit and stored-value cards (SVCs), also known as prepaid cards. The *% own* columns show the percentages of respondents that own at least one debit and credit card, respectively. The *% linked* columns show the percentages of respondents that have linked at least one card to an online payment account or mobile app, among those who have at least one debit or credit card. *SVC-S* denotes store-branded prepaid cards and *SVC-M* denotes prepaid Visa, MasterCard or Amex cards. In 2009, the two types of prepaid cards were included as a single category.

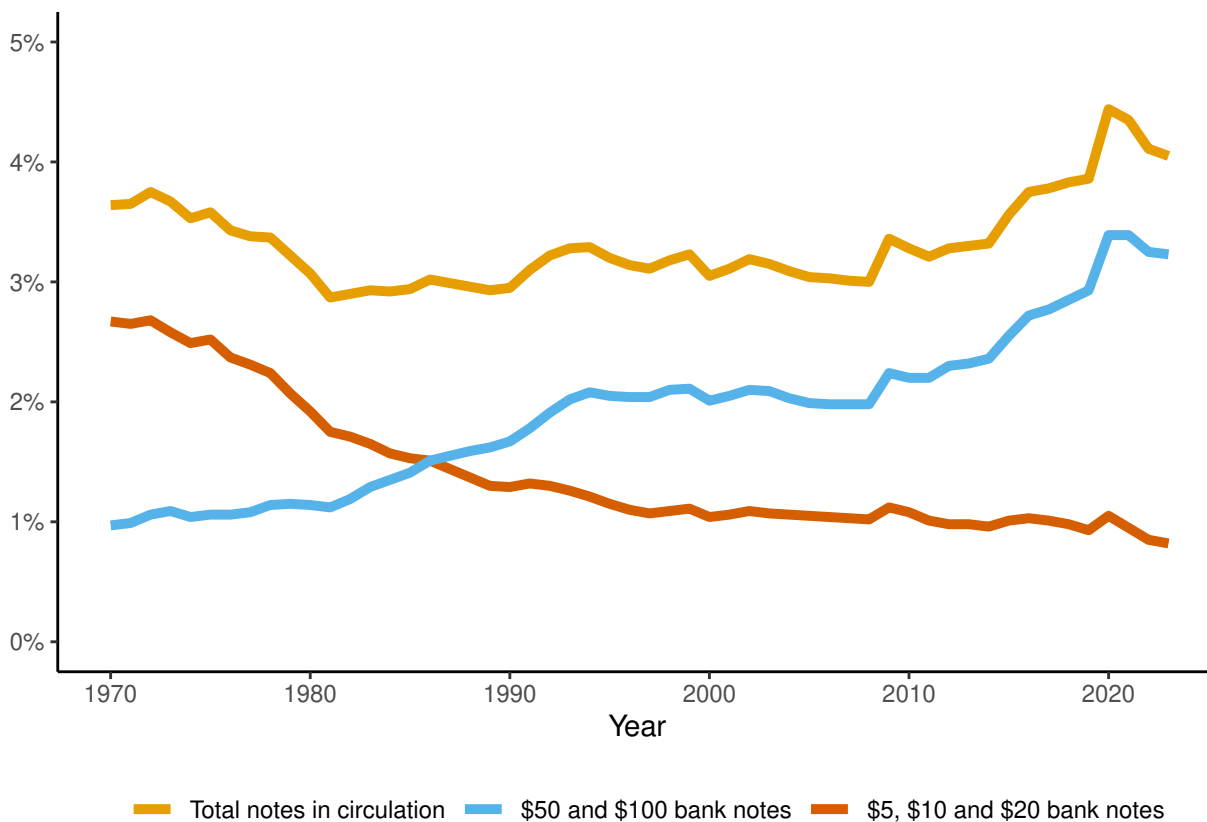
Table 6: Bank account details and credit card revolving

	Bank account					Credit card
	Account fee %	Fee waived %	Fee amount			Revolver %
			<\$5	\$5-\$15	>\$15	
2009	59					38
2013						30
2017	73	44	32	45	23	30
2021	66	32	20	53	27	27
2022	63	31	16	54	29	27
2023	62	34	16	54	30	29

Note: *Account fee* is the percentage of respondents with a bank account who reported having a monthly account fee. *Fee waived* is the percentage of respondents who reported that the fee was waived or refunded in the last month, conditional on having a bank account with a monthly fee. *Fee amount* is the share of respondents with a bank account fee who reported that the monthly fee on their bank account is within a given interval. Respondents who reported “Don’t know/not sure” answers are not included in the estimate. *Revolver* is the percentage of credit card holders who had a balance owing last month and did not pay off the full amount.

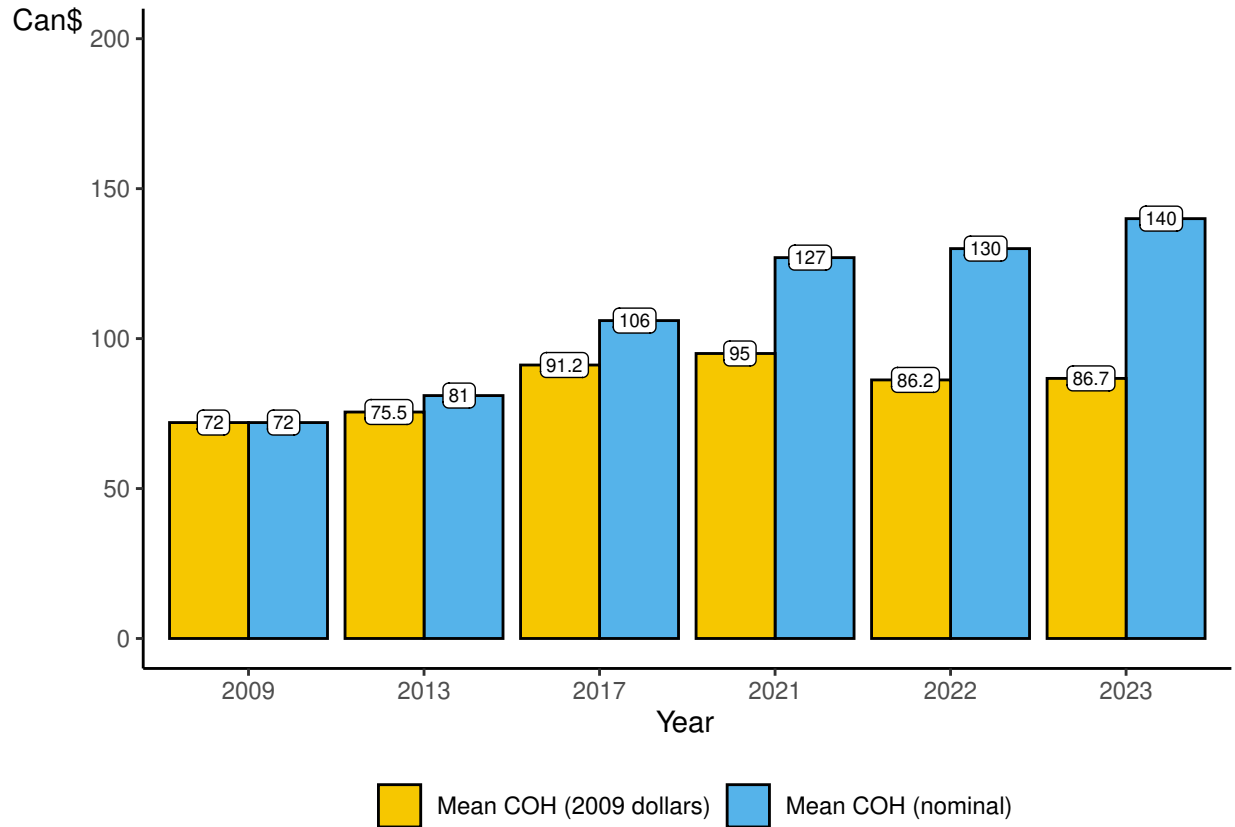
Charts

Chart 1: Aggregate demand for cash in Canada



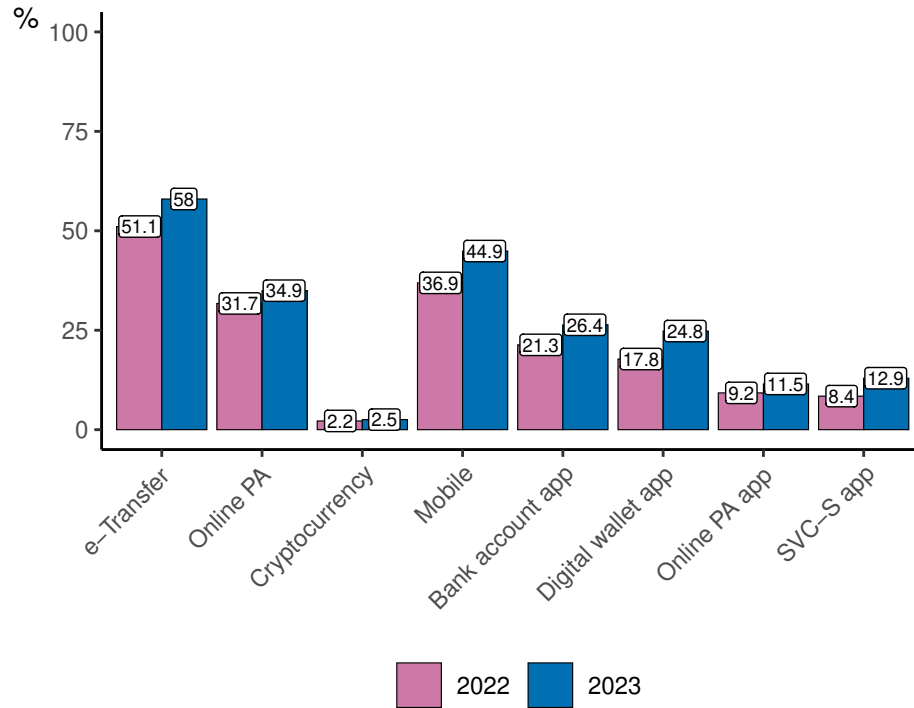
Note: This chart shows the value of bank notes in circulation as a percentage of nominal gross domestic product. This measure is used to quantify aggregate cash demand in the economy.

Chart 2: Inflation adjusted cash on hand



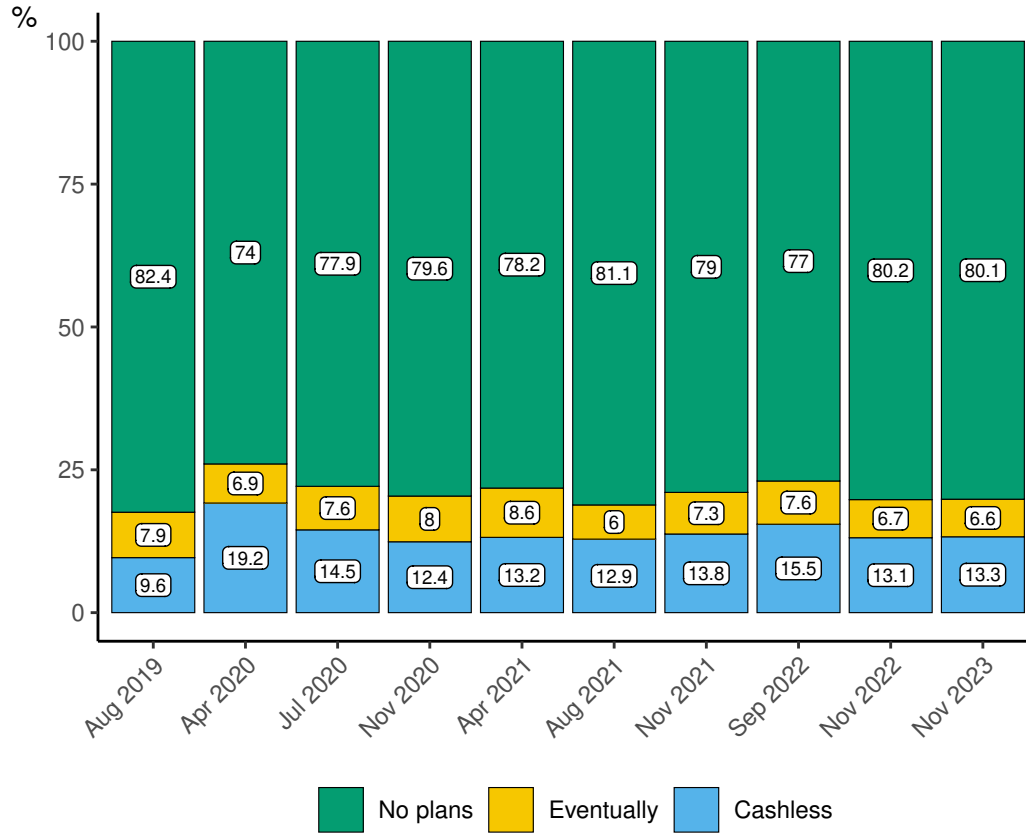
Note: This chart shows mean cash on hand (COH). The horizontal axis corresponds to the years of MOP survey data collection. Mean cash on hand is expressed in nominal terms (blue bars) and in 2009 dollars (yellow bars). Mean cash on hand expressed in 2009 dollars is the product of the nominal value and an adjustment factor. The adjustment factor is the complement of the percentage change in the consumer price index (CPI) in a given year, using 2009 as a base year. We use monthly (not seasonally adjusted) CPI estimates in November to calculate adjustment factors for each year. CPI data are from Statistics Canada [Table 18-10-0004-01](#).

Chart 3: Adoption of alternatives to cash and cards



Note: This chart shows responses to the question, “In the past year, have you used any of the following methods of payment to make a purchase from a store or business (in-person or online)?” The bars correspond to the percentage of respondents having used each indicated method of payment. *Online PA* refers to the use of an online payment account (e.g., PayPal). *Mobile* is the percentage of Canadians who have used at least one of the following: bank account management app, digital wallet app, online payment account app or an app for a store-branded prepaid card (SVC-S). Data are from the 2022 and 2023 Methods-of-Payment surveys.

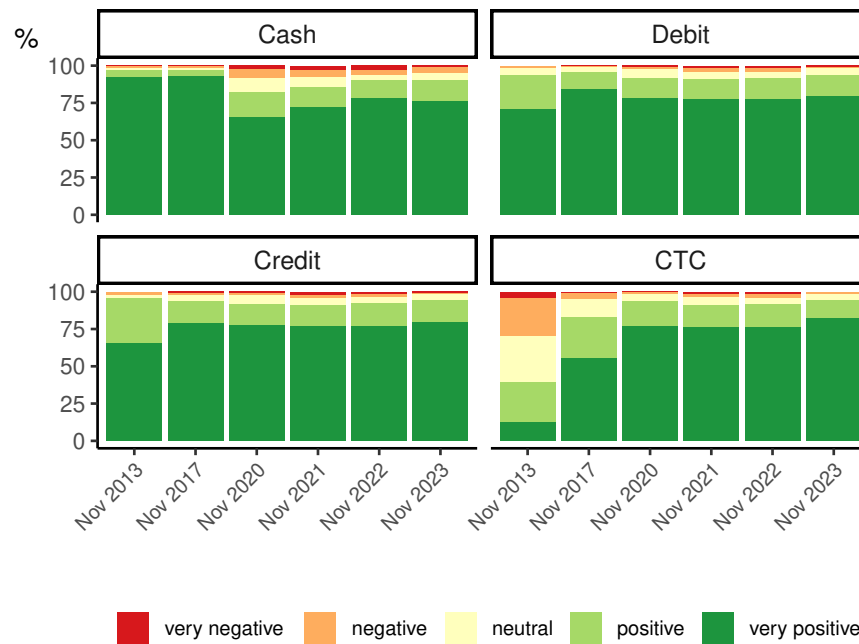
Chart 4: Plans to go cashless



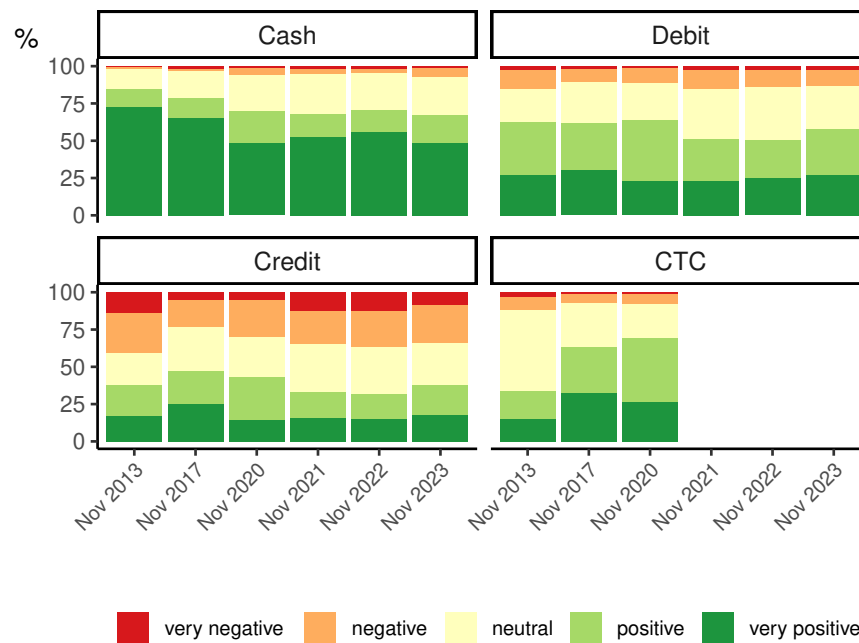
Note: This chart shows the distribution of responses to the question, “Do you currently have any plans to stop using cash in the future?” *No plans* indicates the respondent answered, “No, I do not have any plans to stop using cash.” *Eventually* indicates the respondent answered, “Yes, in the next 2 years,” “Yes, 2 to 5 years from now” or “Yes, more than 5 years from now.” *Cashless* indicates the respondent answered, “Yes, I have already stopped using cash.” See **Table 1** for data sources.

Chart 5: Perceptions of payment features

a. Acceptance



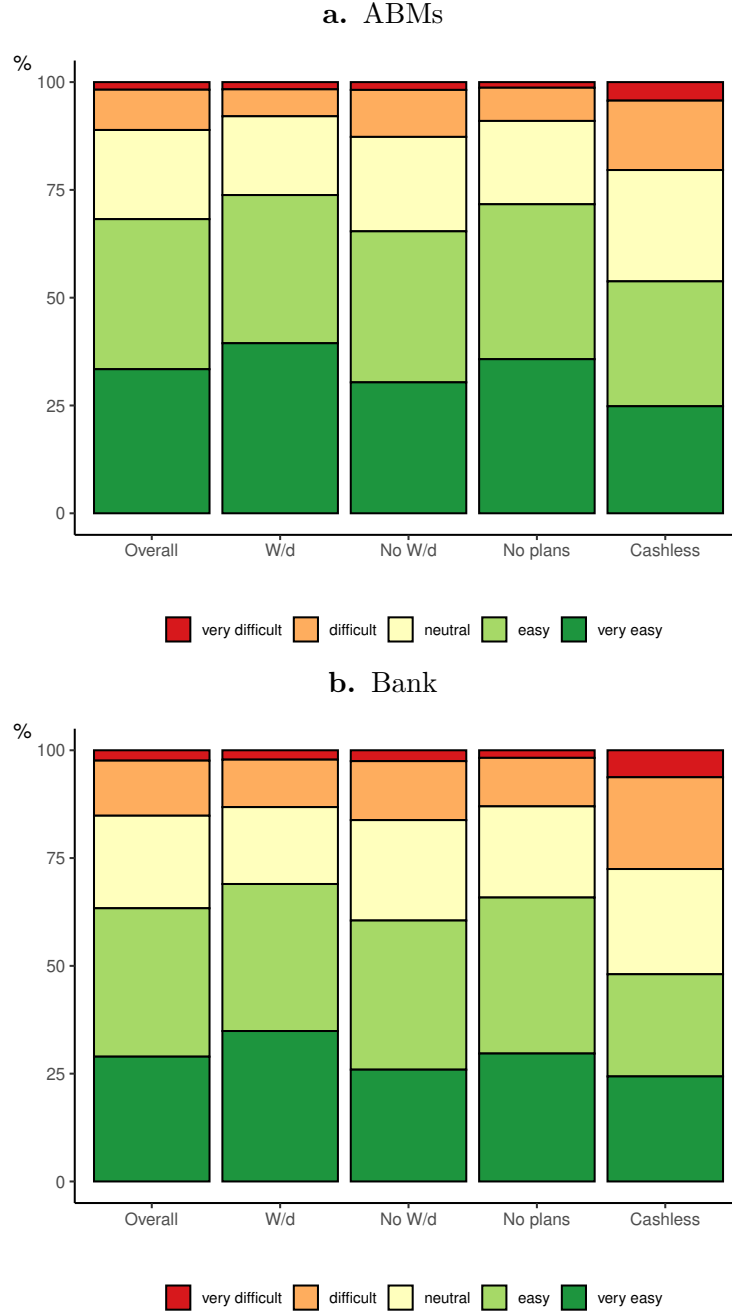
b. Cost





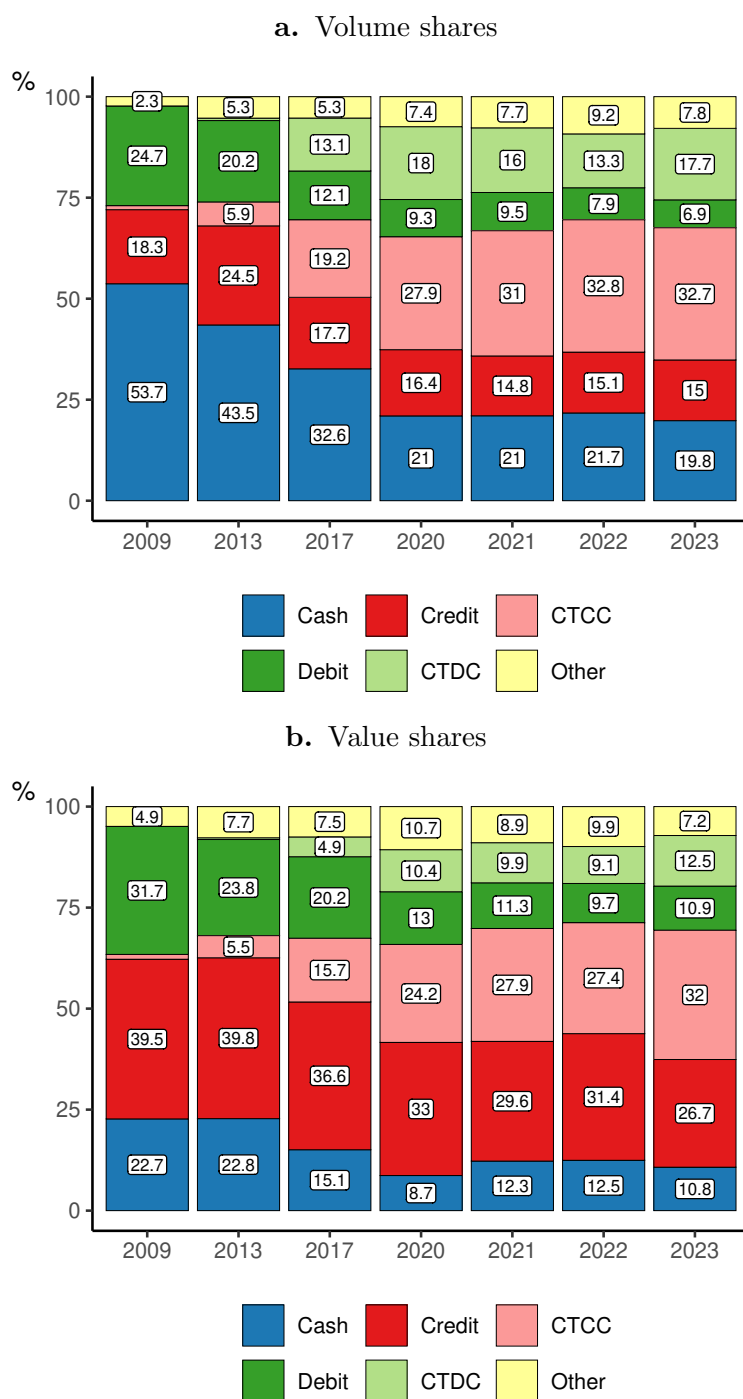
Note: These charts show the ratings of various payment features on a scale of 1 (very negative) to 5 (very positive). Note that “Unsure” answers excluded from the calculation. Definitions of the individual features are provided in **Appendix A**. *CTC* is the contactless feature of a credit or debit card. Data are from the 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment surveys and the November 2020 Cash Alternative Survey. Refer to **Chart B-1** for a version of this chart that accommodates readers with colour-vision deficiency.

Chart 6: Perceptions of access to cash



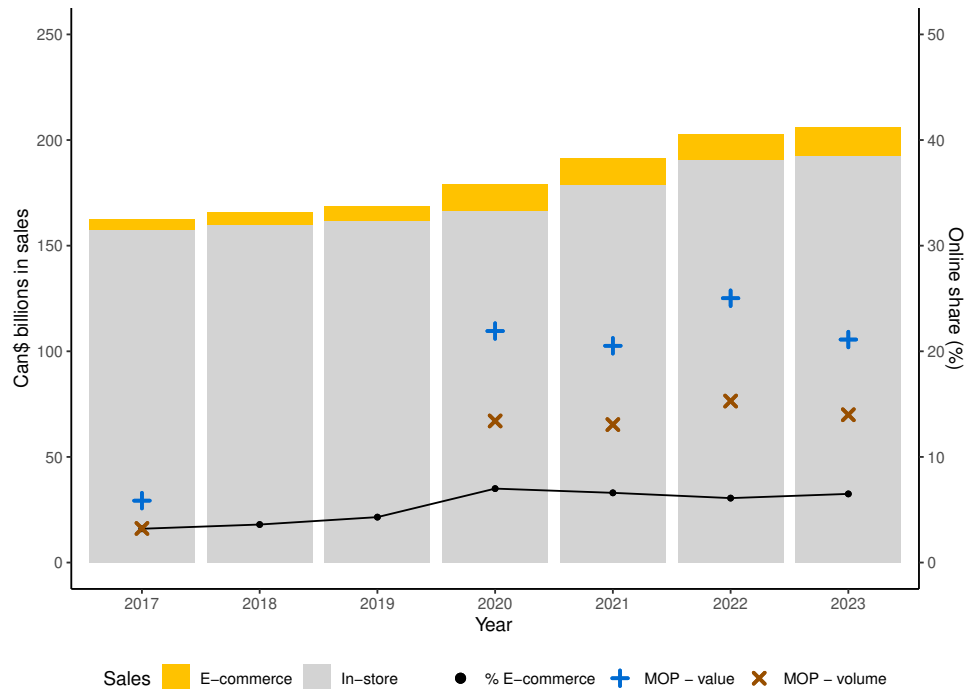
Note: This chart shows the distribution of responses to a question asking how easy or difficult it is to get to an automated banking machine (ABM) (panel a) and a bank (panel b) to withdraw cash. The legend corresponds to the response options, with “Unsure” answers excluded from the calculation. In both panels, the first bar shows the distribution in the overall sample. Subsequent bars correspond to the distribution of various groups, which were identified by withdrawal behaviour and plans to go cashless. *W/d* represents the group of respondents who indicated making a cash withdrawal in the past week, followed by *No W/d*, which represents those who did not withdraw any cash. *No plans* represents the group of respondents who indicated having no plans to stop using cash, followed by *Cashless*, which represents those who have already stopped using cash. Refer to **Chart B-2** for a version that accommodates readers with colour-vision deficiency.

Chart 7: Payment shares over time from payment diary studies



Note: This chart shows the share of transactions by payment method. Panel a shows the shares according to the number of transactions, while panel b shows the shares according to the dollar value of transactions. *CTDC* and *CTCC* denote contactless debit and contactless credit, respectively. Data are from the 2009, 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment diary survey instrument (DSI) and the November 2020 Cash Alternative Survey DSI (DSI weights used). Note that the 2021 and 2022 estimates may differ (by under 0.3 percentage points in most cases) from the 2022 MOP report due to updated editing and weighting methodology. Refer to **Chart B-3** for a version that accommodates readers with colour-vision deficiency.

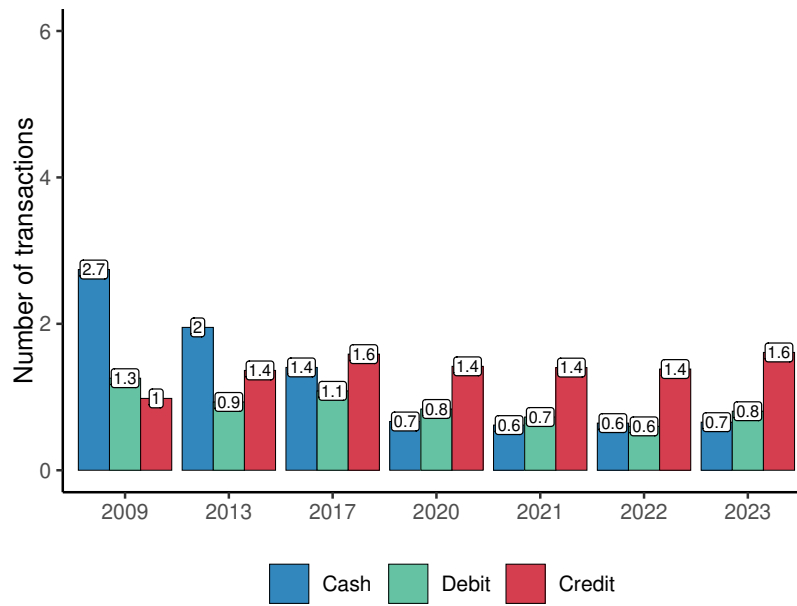
Chart 8: Online purchases: aggregate data versus MOP



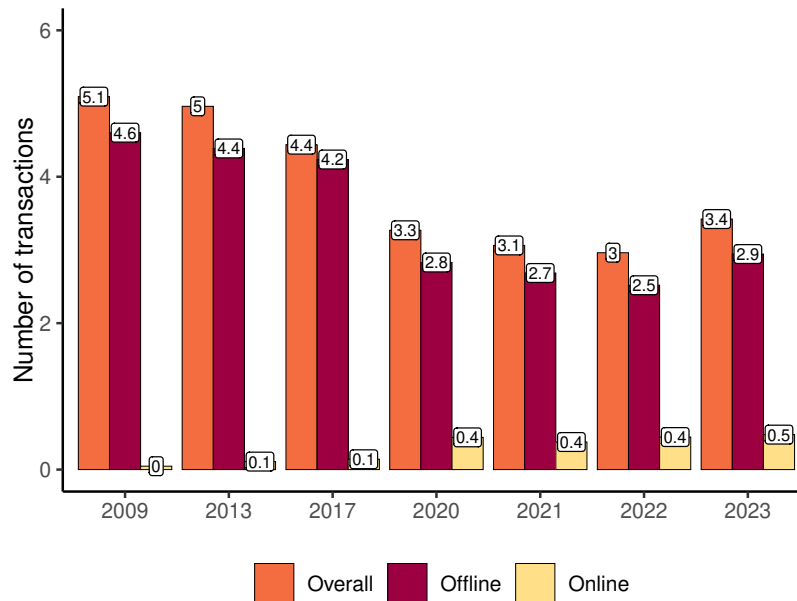
Note: This chart shows measures of retail shopping at the aggregate level based on Statistics Canada data and Bank of Canada's estimates from payment diaries. Statistics Canada data are sourced from Table 20-10-0056-01 and reflect the (seasonally unadjusted) dollar values of retail sales in Q4 for businesses classified as NAICS 44-45. We use the sum of monthly sales over the fourth quarter instead of the entire year, as the fourth quarter aligns with the timing of the MOP survey data collection. In the previous report we used annual data from Table 20-10-0065-01, however this series is now archived. Overlaid in blue and brown crosses are the share of purchases in value and volume, respectively, from the 2017, 2021, 2022 and 2023 Methods-of-Payment (MOP) surveys and November 2020 Cash Alternative Survey payments diaries. Note that the 2021 and 2022 estimates may differ (by under 1 pp in most cases) from the 2022 MOP report due to updated editing and weighting methodology.

Chart 9: Average number of transactions from payment diary studies

a. By method of payment



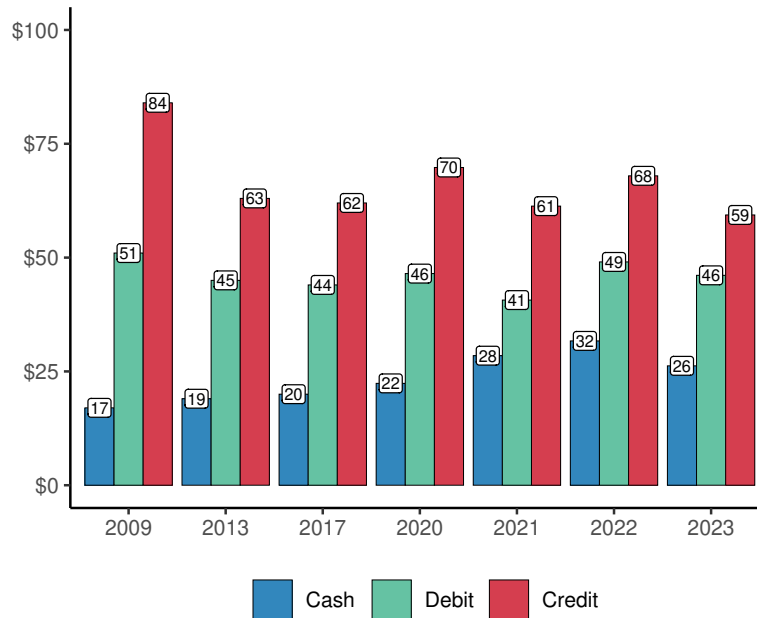
b. Online versus offline



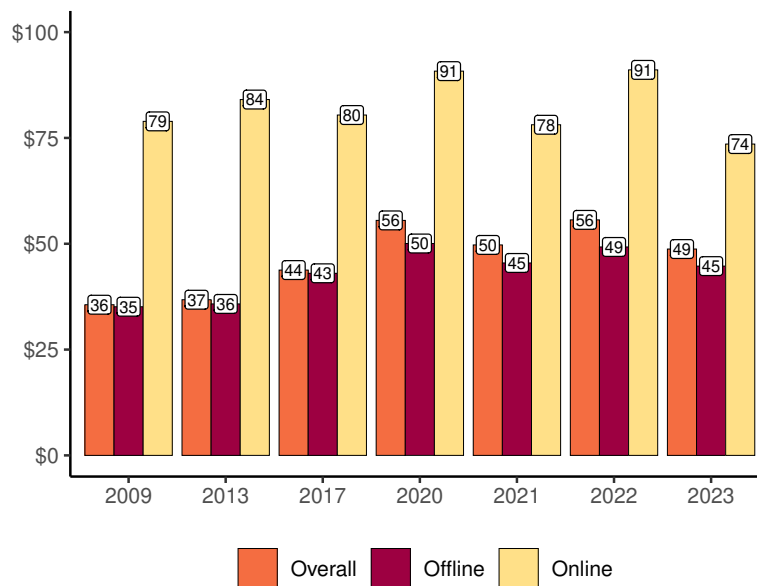
Note: This chart shows the average number of purchases per diary. Panel a shows the averages by payment method, while panel b shows the averages for offline (in-person) and online transactions. Both *Debit* and *Credit* include tap and go, chip and PIN—or personal identification number—and online modes. Note this calculation considers only those respondents who completed all three days of the diary. In 2009–17, the *Offline* and *Online* estimates may not add up to the *Overall* estimate due to missing values in the location variable. Data are from the 2009, 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment diary survey instrument (DSI) and the November 2020 Cash Alternative Survey DSI (DSI weights used). Refer to **Chart B-4** for a version that accommodates readers with colour-vision deficiency.

Chart 10: Average transaction values from payment diary studies

a. By method of payment



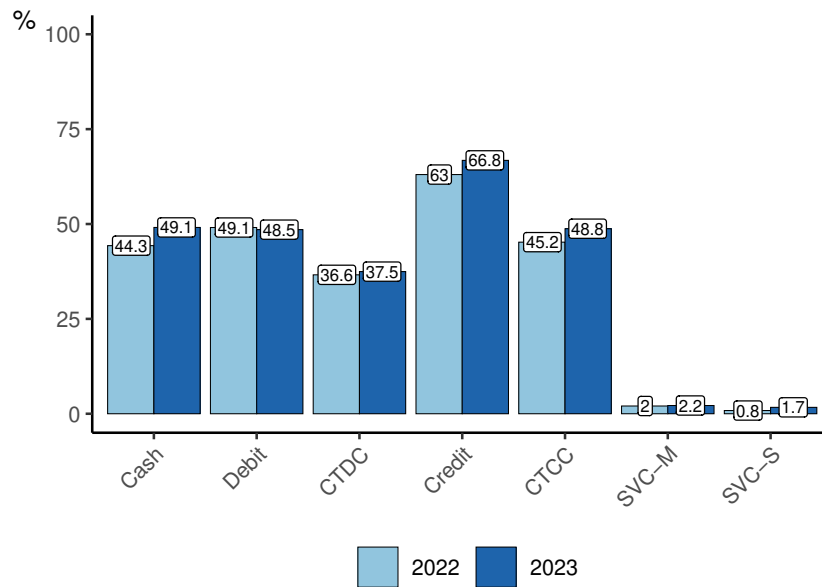
b. Online versus offline



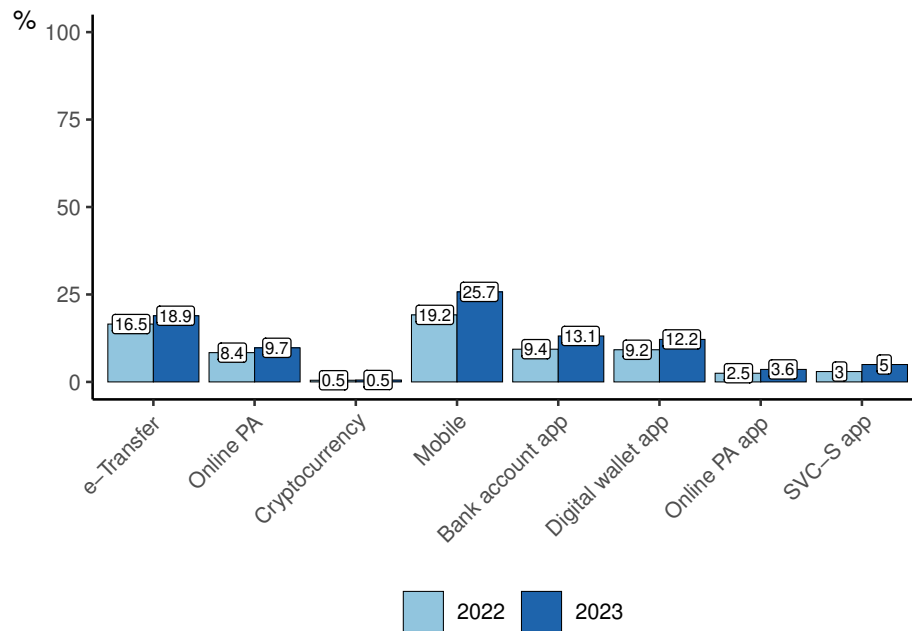
Note: This chart shows the average dollar value of various types of purchases. Panel a shows the averages by method of payment and panel b shows the averages for offline (in-person) and online transactions. Both *Debit* and *Credit* include tap and go, chip and PIN—or personal identification number—and online modes. Data are from the 2009, 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment diary survey instrument (DSI) and the November 2020 Cash Alternative Survey DSI (DSI weights used). Note that the 2021 and 2022 estimates may differ (by under \$1 in most cases) from the 2022 MOP report due to updated editing and weighting methodology. Refer to **Chart B-5** for a version that accommodates readers with colour-vision deficiency.

Chart 11: Use of payment methods in the past week

a. Cash and cards



b. Alternatives to cash and cards



Note: This chart shows the percent of Canadians that recall using various means of payment for a purchase in the past week. Panel a shows cash and cards, while panel b shows alternatives to cash and cards. Both *Debit* and *Credit* include tap and go, chip and PIN—or personal identification number—and online modes. *CTDC* and *CTCC* refer to tap-and-go debit and credit, respectively. *SVC-S* denotes store-branded prepaid cards, *SVC-M* denotes prepaid credit cards and *SVC-S app* denotes store-branded prepaid card apps. *Online PA account* refers to online payment accounts (e.g., PayPal) and *Online PA app* refers to online payment account apps. *Mobile* comprises the following: *Bank account management app*, *Digital wallet app*, *Online payment account app* or *SVC-S app*. Data are from the 2022 and 2023 Methods-of-Payment survey questionnaires (SQ).

Appendix

A Key definitions

Table A-1: Definitions of payment instruments (MOP SQ)

Concept	Definition
Cash	Coins and bank notes
Debit card	Card issued by a bank that gives the holder electronic access to a bank account for making payments and withdrawals from an automated banking machine.
Credit card	Card allowing a holder to purchase goods and services on credit, both in person and online, and pay the credit card company later.
Stored-value card issued by VISA/MasterCard/Amex	Card that comes loaded with funds at the time of purchase and features the Visa, Mastercard or Amex logo. It can be used to purchase goods and services both in person and online.
Store-branded stored-value card	Card issued by a retailer that can only be used at stores belonging to the retailer. It can usually be reloaded with funds. E.g., Tim Hortons TimCard, Walmart gift card.
Contactless payment (tap-and-go)	Feature found on most credit and debit cards. It allows the user to pay by waving or tapping the card over a terminal without entering a PIN, swiping or inserting the card.
Interac e-Transfer	A method of transferring money from yourself to another person using an email address or a mobile phone number.
Online payment account	Account not affiliated with any particular bank but that can be loaded with funds and used to make purchases or transfer money on the internet. It can be loaded using a credit card or by linking to a bank account. E.g., PayPal.
Mobile payment application	Application on a smartphone, such as an iPhone or Android phone, that allows the user to make purchases.
Cryptocurrency	A digital currency and payment method where accounts and transactions are listed in a public, shared database and often secured through special protocols, called cryptography. E.g., Bitcoin.

Table A-2: Definitions of payment instrument attributes (MOP SQ)

Concept	Definition
Ease	How easy or hard it is to use the method of payment in Canada
Cost	How costly it is to use the method of payment in Canada, taking fees, interest payments, etc. into consideration
Security	How risky or secure it is to use the method of payment in Canada, in the respondent's opinion
Acceptance	How widely accepted the method of payment is in the respondent's community (2017, 2021 and 2022 MOP) or in Canada (2013 MOP)

Table A-3: Definitions of cash-related variables (MOP SQ)

Concept	Definition
Cash on hand	Amount of cash in the respondent's purse, wallet or pockets at the time of the survey
Other cash holdings	Amount of cash the respondent's household keeps in locations other than a purse, wallet or pockets, such as at home or in a vehicle

Table A-4: Definitions of transaction types (MOP DSI)

Concept	Definition
Purchase	Any good or service purchased from a store, business, institution or government service (in-person or online); or purchased from another person. Does not include pre-authorized payments, bill payments, business expenses or donations and gifts.
Person-to-person transaction	A transaction between two individuals where the payee is not receiving the payment on behalf of a business, store, institution or government service.
Online purchase	Any good or service bought online via the internet using a computer or smartphone.

Table A-5: Examples of types of goods and services purchased (MOP DSI)

Type of purchase	Example
Groceries/drugs	Food, alcohol, tobacco, cleaning products, prescriptions
Gas	Gasoline for private transport vehicles
Personal attire	Clothing, accessories, cosmetics
Health care	Doctor, dentist, hospital bills
Hobby/sporting goods	Craft supplies, tools, toys, sports equipment, books, newspapers
Professional services	Lawyer, mechanic, spa services, haircut
Travel/parking	Hotel, taxi or ride-sharing services, plane, train, paid parking, public transit
Meals	Restaurants, cafeterias, bars, coffee shops
Entertainment	Movies, outings, concerts, admission for swimming pools, museums, zoos, galleries
Durable goods	Electronics, furniture, appliances, automobile, household accessories

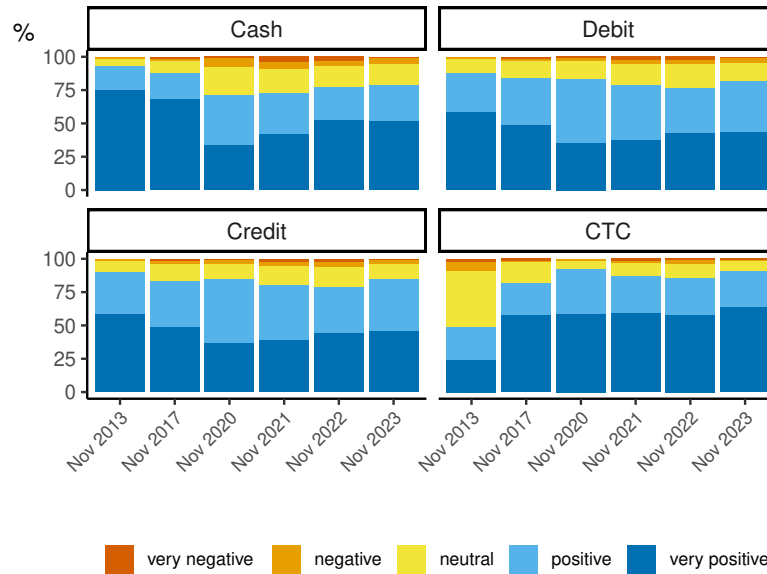
B Colour-vision deficiency: alternative charts

It is estimated that up to 8% of males and 0.4% of females experience the most common form of red-green colour-vision deficiency (Birch (2012)). We provide alternative versions of certain charts presented in this report that may be difficult for those who have this condition. Wilke (2019) was a helpful resource for designing charts to accommodate readers with colour-vision deficiency.

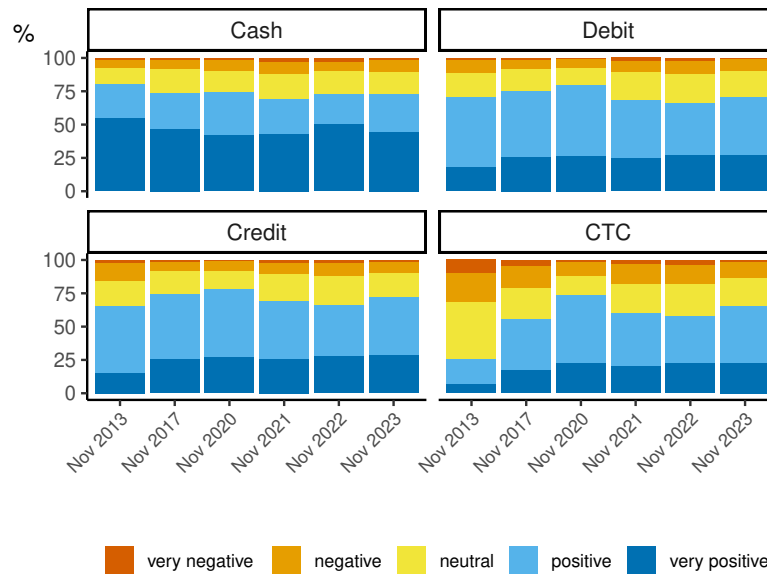
Chart B-1: Perceptions of payment features



c. Ease of use



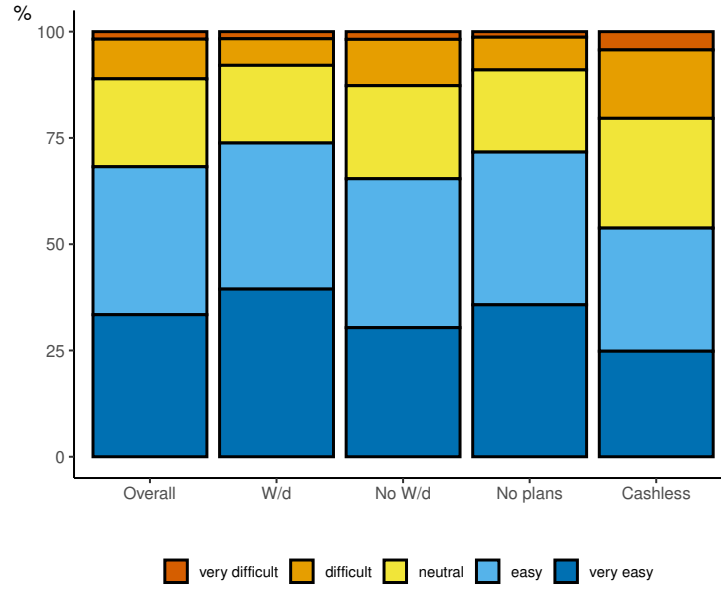
d. Security



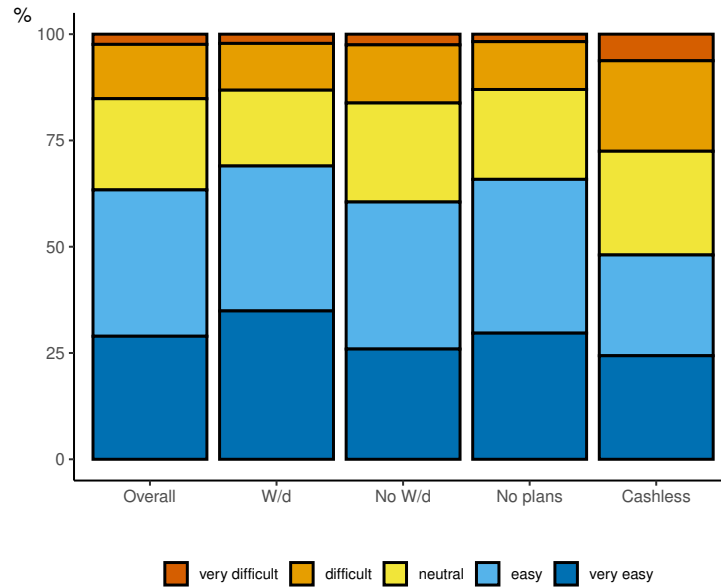
Note: These charts show the ratings of various payment features on a scale of 1 (very negative) to 5 (very positive). Definitions of the individual features are provided in **Appendix A**. *CTC* is the contactless feature of a credit or debit card. Data are from the 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment surveys and the November 2020 Cash Alternative Survey.

Chart B-2: Perceptions of access to cash

a. ABMs

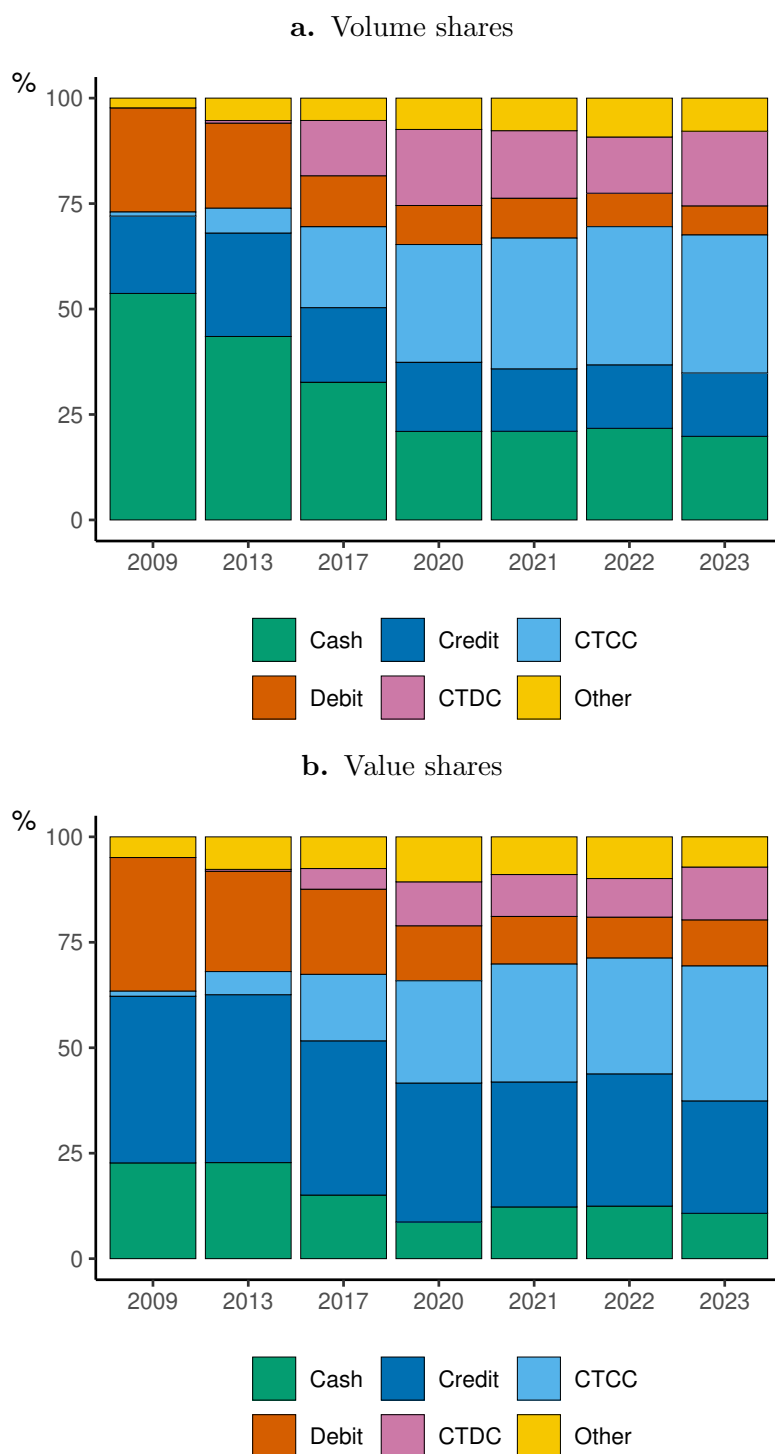


b. Banks



Note: This chart shows the distribution of responses to a multiple-choice question asking respondents how easy or difficult it is to get to an automated banking machine (ABM) (panel a) and a bank (panel b) when they need to withdraw cash. The legend corresponds to the response options in the survey, with “Unsure” answers excluded from the calculation. In both panels, the first bar shows the distribution in the overall sample. Subsequent bars correspond to the distribution of various respondent groups, which were identified by answers to questions on withdrawal behaviour and plans to go cashless. *W/d* represents the group of respondents who indicated making a cash withdrawal in the past week, followed by *No W/d*, which represents those who did not withdraw any cash. *No plans* represents the group of respondents who indicated having no plans to stop using cash, followed by *Cashless*, which represents those who have already stopped using cash.

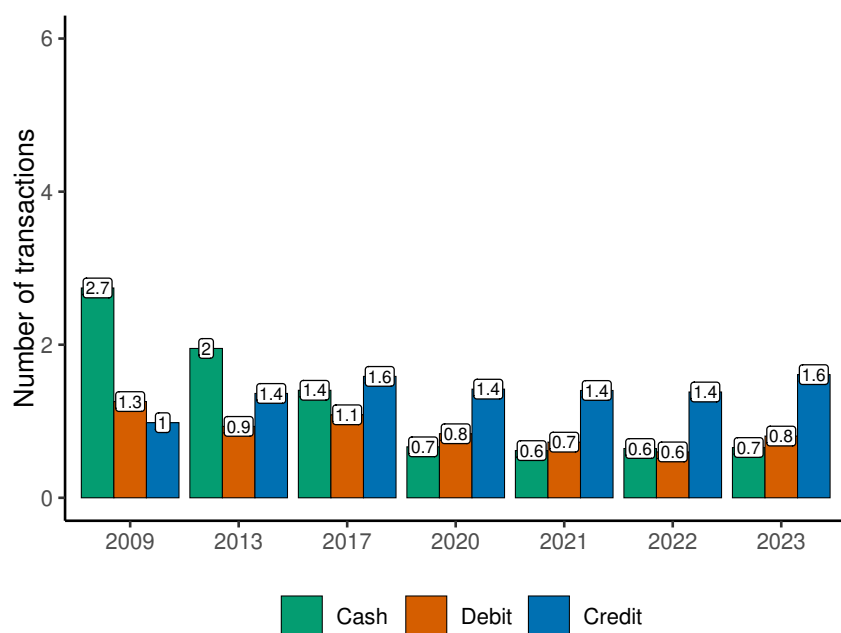
Chart B-3: Payment shares over time from payment diary studies



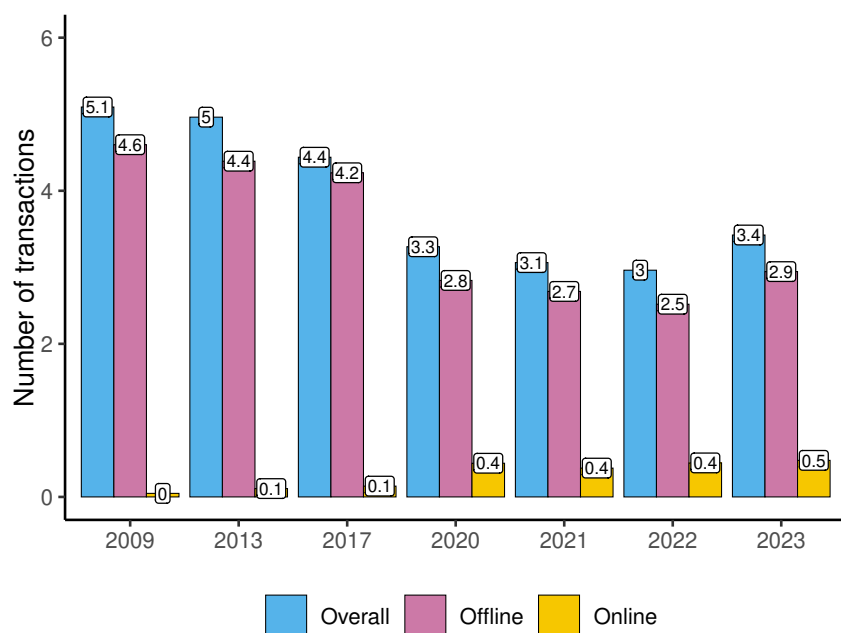
Note: This chart shows the share of transactions by method of payment. Panel a shows the shares according to the number of transactions, while panel b shows the shares according to the dollar value of transactions. *CTDC* denotes contactless debit card payments and *CTCC* denotes contactless credit card payments. Data are from the 2009, 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment diary survey instrument (DSI) and the November 2020 Cash Alternative Survey DSI (DSI weights used).

Chart B-4: Average number of transactions from payment diary studies

a. By method of payment



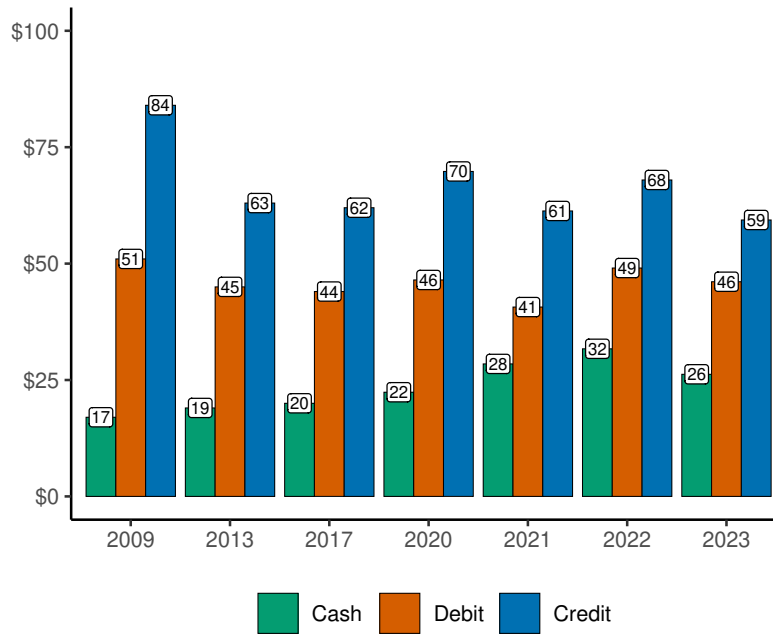
b. Online versus offline



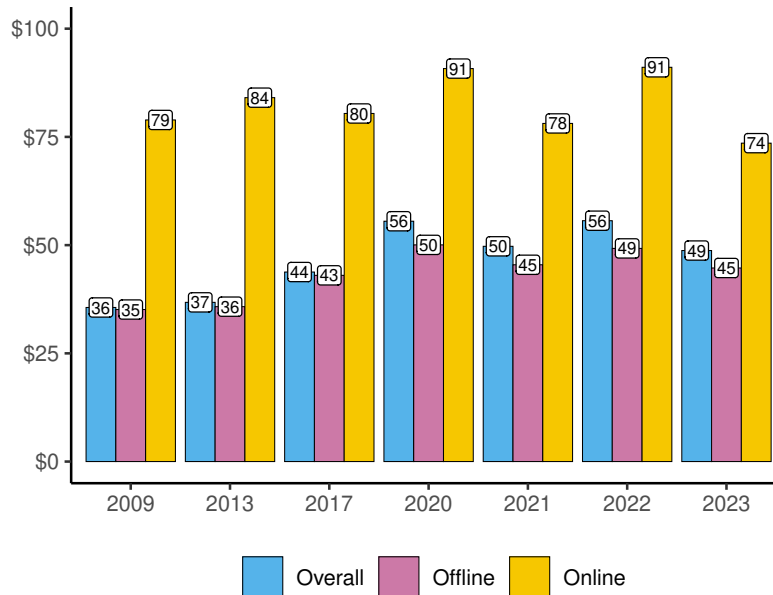
Note: This chart shows the average number of purchases per diary. Panel a shows the averages by method of payment, while panel b shows the averages for offline (in-person) and online transactions. Both *Debit* and *Credit* include tap and go, chip and PIN—or personal identification number—and online modes. Note that this calculation considers only respondents who completed all three days of the diary. In 2009–17, the *Offline* and *Online* values may not add up to the *Overall* value due to missing values in the location variable. Data are from the 2009, 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment diary survey instrument (DSI) and the November 2020 Cash Alternative Survey DSI (DSI weights used).

Chart B-5: Average transaction values from payment diary studies

a. By method of payment



b. Online versus offline



Note: This chart shows the average dollar value of various types of purchases. Panel a shows the averages by method of payment, while panel b shows the averages for offline (in-person) and online transactions. Both *Debit* and *Credit* include tap and go, chip and PIN—or personal identification number—and online modes. Data are from the 2009, 2013, 2017, 2021, 2022 and 2023 Methods-of-Payment diary survey instrument (DSI) and the November 2020 Cash Alternative Survey DSI (DSI weights used).

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