

A close-up photograph of a person's hand holding a credit card over a payment terminal. The person is wearing a blue denim shirt and a black smartwatch. The payment terminal has a green light and a yellow light. The background is blurred.

2019

Canadian Payment Methods and Trends



Canadian Payment Methods and Trends: 2019

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The views expressed in this report are those of the authors and should not be attributed to the organizations named above.

Payments Canada discussion papers concern a variety of issues relevant to the role of Payments Canada. The views expressed in this paper are those of the authors at the time of publication and do not necessarily represent those of Payments Canada.

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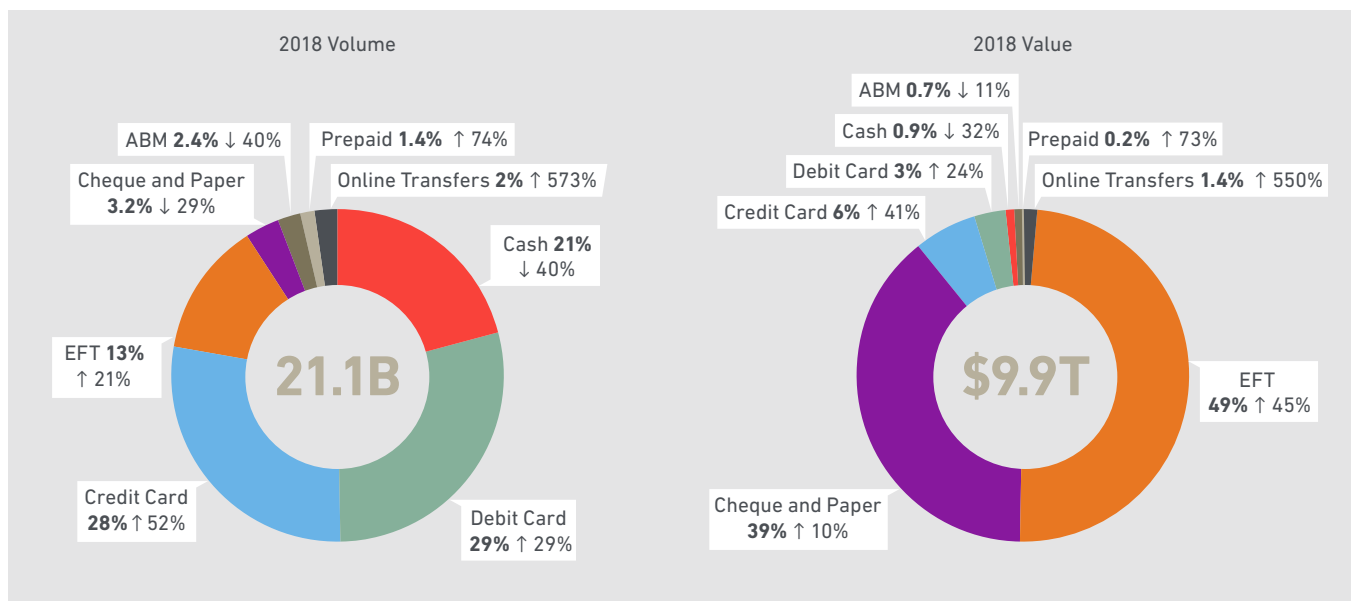
EXECUTIVE SUMMARY

Each year, Payments Canada provides an overview of the payment methods and trends observed in the country. Payments Canada worked closely with payment service providers, payments consultants and researchers to compile a comprehensive 2018 data set and provide insightful analysis on consumer and business payments.

In 2018, the payments market in Canada grew to 21.1 billion consumer and business transactions worth more than \$9.9 trillion. When compared to the data from five years ago, it is clear that a remarkable transition is underway as Canadians continue to expand their use of electronic payments.

The 2018 data show that debit and credit cards continue to make up the largest portion of the total transaction volume, while electronic funds transfers (EFT) and cheque and paper transactions still dominate the overall transaction value (see **Figure**). In 2018, Canadian overall credit card use accelerated, such that credit card transaction volume nearly caught up with debit card volume. Meanwhile, growth in commercial and business use of EFT nearly lifted the overall transaction value of EFT to a full half of all of the transaction value included in the research. Cheque and paper volume was only about three per cent of the total payment volume in 2018, however, the total value of cheque and paper items remained high overall, representing over 39 per cent of the total transaction value.

Figure: 2018 Total Payments and Transactions¹



The main factor in explaining the dichotomy between transaction volume and value is the fact that Canadians transact in two very distinct environments: the point-of-sale and remote payment environments.

¹ The arrows represent the growth and decline of the key payment methods between 2013 and 2018.

The Point-of-Sale Environment

The point-of-sale (POS) environment includes transactions that take place in either physical or virtual payee locations (i.e., brick and mortar merchants and online vendors), including in-app and other e-commerce. In 2018, there were a total of 15.7 billion POS payments, worth over \$856 billion (average transaction value of \$54).

The POS environment is being shaped by the continued growth of electronic payments as the POS evolves to become more oriented towards e-commerce and mobile devices. The following trends were also observed:



Cash continued its sharp decline in 2018, shrinking by over nine per cent in volume – losing more ground to card payments at the POS. Nevertheless, cash volume remained prominent in 2018 at 4.5 billion transactions.



Debit cards² overtook total cash transactions (POS & remote combined) for the first time in 2016 to become the most widely used payment method at the POS. This trend continued through to 2018 with six billion debit transactions.



Credit cards³ continue to be the second-most-used POS payment method in terms of transaction volume and accounted for more POS transaction value than all of the other POS payment methods combined in 2018.



Distinctively, **contactless payment**⁴ (via card and mobile devices) growth was strong at the POS, totaling 4.1 billion transactions, worth \$129.9 billion in 2018. Contactless volume and value grew by almost 30 per cent since 2017.



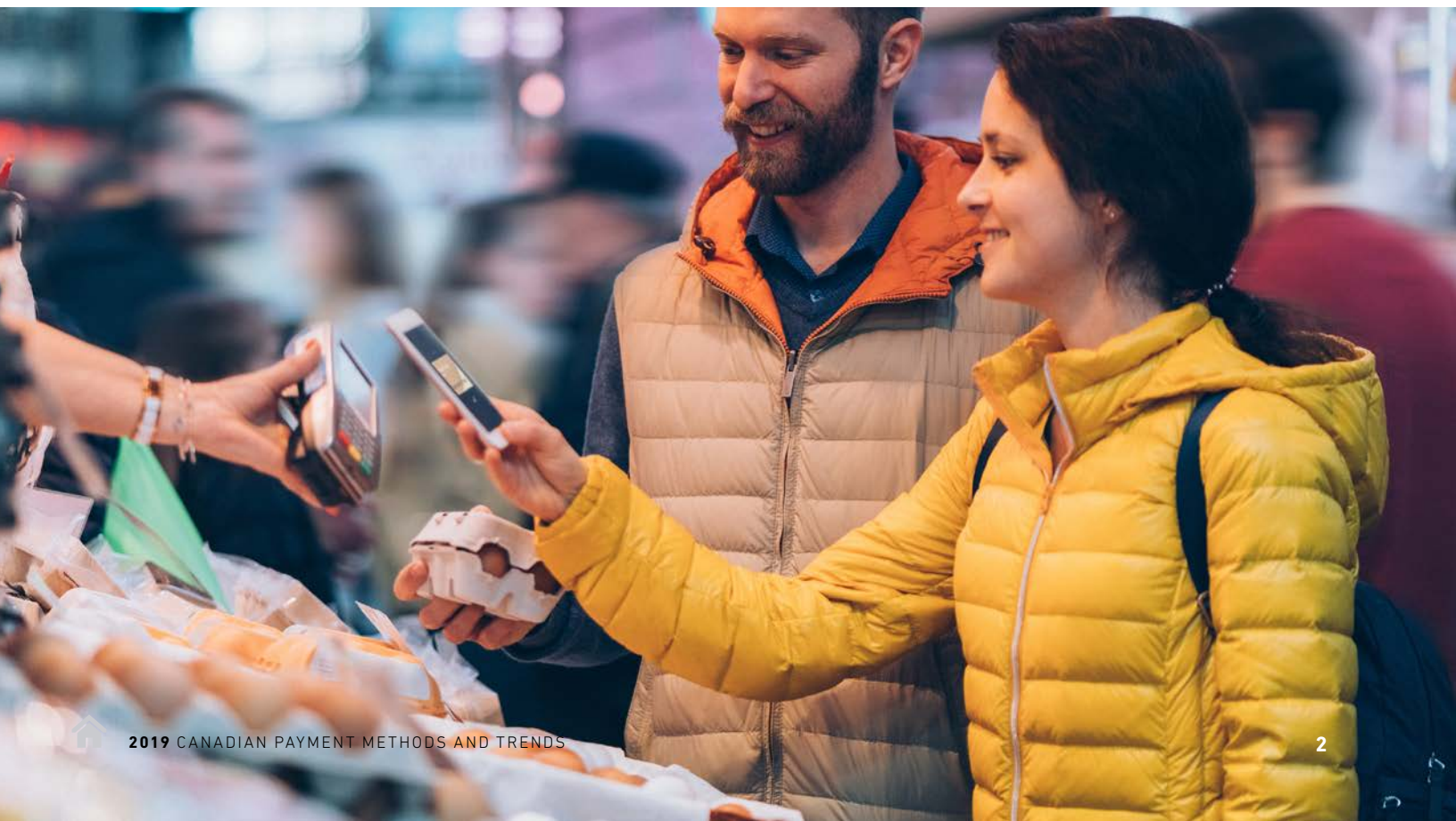
Prepaid card (including plastic and virtual cards) volume growth continued to be nearly double the combined growth rate of debit and credit card (nine per cent vs. five per cent) as Canadians used more prepaid cards in 2018, particularly for e-commerce.⁵

² Debit cards include all transactions (e.g., POS, card on file, contactless, online).

³ Credit cards include all transactions (e.g., POS, card on file, contactless, online).

⁴ A contactless payment is a method for consumers to purchase products or services by using RFID technology or near-field communication (NFC) also referred to as “tapping” a card or mobile phone.

⁵ Debit and credit cards combined, including all transactions (e.g., POS, card on file, contactless, online).



The Remote Payments Environment

Remote transactions include all the transactions that are not made at physical (brick and mortar) and virtual (online) payee locations. Instead, payors use financial institutions or payment service providers as intermediaries that accept payment instructions, and move funds to intended payees through their services. Remote transactions enable payors to initiate transactions using cheques, EFT and online transfers (i.e. P2P transactions). In 2018, there were a total of 4.5 billion remote transactions, worth about \$9 trillion (average transaction value of \$1,993). These transactions represent 91 per cent of the total Canadian transaction value, but only 25 per cent of the total volume.

The following trends were also observed:



EFT transactions (including direct deposits, pre-authorized payments and online bill payments made from deposit accounts) dominated the remote environment once again in 2018 as the leading payment type in both volume and value terms.



Personal cheque use decline was high, where consumer use of online transfers continued to climb above their cheque use in both volume and value terms for the first time in 2018. Despite the decline in cheque volume, the total value of cheques remains high overall, representing over 39 per cent of the total transaction value.



Commercial cheques represented 70 per cent of the total cheque volume, and 98 per cent of the total cheque value in 2018. The volume of commercial cheques declined by six per cent and the value increased by one per cent in 2018.⁶



Online transfers continue to be the fastest growing payment segment, growing by 52 per cent in volume and 44 per cent in value in 2018. Of interest, mobile devices are becoming the channel of choice for online transfers, with 35 per cent of consumers routinely using them to initiate payments.

⁶ Cheque figures include movements of large transactions made between financial institutions for making and repaying overnight loans, which serve to inflate the overall cheque value to some degree.

PAYMENTS FROM COAST TO COAST

A look at how Canadian consumers and businesses view and use payments

Here in Canada, each of us has unique views and preferences when it comes to payments, from making choices at checkout and settling our expenses, to sending funds to a friend or fellow business. Interestingly, there are areas where the preferences of consumers and businesses trend together. Join us to explore the payments landscape from coast to coast and uncover how and where 21.1 billion transactions, worth more than \$9.9 trillion a year, happen across Canada.



Canadians at point-of-sale (POS)

Canadians continue to migrate from cash and cheques, clicking and tapping their way through billions of payments.



Debit cards overtook cash with six billion transactions (versus 4.5 billion for cash).

See page 15 for full details on this key milestone.

When you **tap**, do you reach for your **debit card** or **credit card**?

Find out which payment method is more popular with consumers on page 19.

Canadians made

15.7 billion

POS payments at virtual or bricks and mortar checkouts in 2018, totalling over **\$856 billion**.

Details uncovered on page 12.



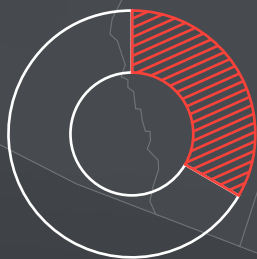
Did you know that **Ontarians** and **British Columbians** tap their cards more than those living in other provinces?

Find out more about contactless usage in Canada on page 19.



Which provinces write the most **cheques** and why?

Find out on page 33.



More than **a third of Canadians** used a tablet, phone, or other device to make a purchase in 2018.

More on the rise of e-commerce on page 20.

Four million



Canadians registered for *Interac* e-Transfer's Autodeposit feature. How many are using Request Money?

Page 28 has all the details about online transfers, the fastest growing payment method.

Canadians make, on average, about **four in-app purchases a month**. Where do you fit in? See which new in-app payment forms are entering the market on page 20.



Businesses in the remote environment

Canadian businesses continue to go digital, making fewer payments by cash or cheque and expanding the range of electronic payment options they offer to customers. Businesses aren't abandoning paper as quickly as consumers, but the rate is increasing as more businesses adopt innovative new payment methods and technologies.



Electronic Funds Transfer (EFT) is the number one method of payment for businesses. It dominates both volume and value in the remote environment (payments made through a third party, such as a bank).

Explore this rising trend on page 34.

4.5 billion

consumer and business remote transactions took place in 2018, worth about **\$9 trillion**.

Details are uncovered on page 24.

More businesses are using online transfers, sending **over \$465 million via Interac e-Transfer Bulk Disbursement**. More on this transition on page 35.

Canadian businesses are writing fewer and fewer cheques. **Is cheque imaging slowing the decline?** Find out on page 25.



Canadian businesses are seeking easy, efficient ways **to process payments**. **New digital payments providers are responding.** Discover how businesses pay in Canada on page 34.

Did you know that

20%

of merchants currently accept Alipay and/or WeChat Pay in Canada?

Learn more about the rise of new digital payments on page 35.



Canadians are demanding faster, more convenient methods of payment. Payments systems and services across the country are answering the call for a responsive, information rich environment. See how in the 2019 *Canadian Payments Methods & Trends* report.

INTRODUCTION AND METHODOLOGY

The Canadian economy depends on the exchange of close to \$210 billion worth of payments and financial transactions on average, each business day. Payments Canada is responsible for the clearing and settlement infrastructure, processes and rules essential to the successful completion for many of those transactions, as the owner and operator of the Automated Clearing and Settlement System (ACSS) and the Large Value Transfer System (LVTS).

Payments Canada is pleased to present the 2019 *Canadian Payment Methods and Trends (CPMT)* report. Through the CPMT, Payments Canada is able to compile data for its member financial institutions and share knowledge with the larger payments industry to promote a common understanding of trends in Canada.

The primary objective of the research is to inform readers about the most common domestic consumer and business transactions, providing a holistic view of the Canadian payments market.⁷ To that end, the CPMT analysis includes ACSS data, external payment service provider data, Canadian market research, and expert analysis.⁸ Experts and market survey research are used to fill in areas where accurate payment use data are unavailable.⁹ Data collected in 2018 were combined with data collected from past research to provide a multi-year observation span to view trends. In the following sections, 2013 and 2018 data were primarily compared to understand how payment methods and trends have evolved historically. In some cases, year-over-year comparisons (2017 to 2018) were mentioned to provide either a broader or more narrow view of the trends being discussed. Transaction information from the ACSS, credit and prepaid cards, cash and key payment service provider data were also included.¹⁰

There are certain payment methods that are not included in the report. First, securities and derivatives transactions/trades are excluded from the research.¹¹ Next, some payment types that have not reached volumes that would have a significant impact on the national payments market were excluded. This includes payment methods that do not make up at least one per cent of the volume or value of either remote or point-of-sale transactions (such as virtual currencies).¹² Finally, LVTS (wire) transactions are excluded as they are low in volume and very large in value so they obscure the value trends of the other payment types of interest.¹³

7 **Appendix II B** includes definitions on a variety of terms used throughout the paper.

8 Please see **Appendix II A** for details on methodology and assumptions, including consumer and business survey market research methodologies.

9 To view older reports, please see:

Canadian Payment Methods and Trends: 2018, Payments Canada Discussion Paper No.8, December 2018;
Canadian Payment Methods and Trends: 2017, Payments Canada Discussion Paper No.7, November 2017; etc.

10 This paper also includes transactions that may not specifically be used for the exchange of goods and services. For example, ABM transactions are used to obtain cash, where the cash is used for actual payments. Both types of transactions fall within the scope of this research, as each represents an important element of the payments market in Canada. However, we recognize that this may be seen as a form of double counting.

11 Where a payment is made to purchase investments (e.g., cheque, credit card or AFT credit), the transaction will be counted among the appropriate payment segments. When derivatives, securities, and other assets are exchanged and no payment is required or results, the exchange of value is not included.

12 Only seven per cent of adult Canadians have used a virtual currency. Overall, the survey finds that awareness of Bitcoin has been increasing but the usage has been dropping. TSI Canadian Consumer Payments Survey, TSI 2019.

The Bitcoin Sentiment Tracker also finds that while Bitcoin has made significant headway in awareness, a majority of consumers are not yet familiar or comfortable enough with the concept. Available at: <https://www.payments.ca/sites/default/files/bitcoin-sentiment-tracker-final.pdf>

13 For analysis on the LVTS, please see Payments Canada's Annual Report at https://www.payments.ca/sites/default/files/paymentscanada_2018annualreport_final.pdf



THE PAYMENTS LANDSCAPE

The market for payments continues to be influenced by domestic and international payments innovations, payment service providers, payment systems modernization and regulators' efforts to reshape the payments industry for the future.

Domestic and international payments providers left a clear impression on the Canadian landscape in 2018, and growth in consumer and business appetite for friction-free, and fast payments grew. Additionally, partnerships and acquisitions between fintechs and incumbent financial institutions/payment service providers continued to emerge: TD announced the purchase of Layer 6, an AI company based in Toronto; Interac Corp. partnered with Bambora to expand acceptance of Interac transactions; and PayPal acquired HyperWallet (a Vancouver-based company), to enhance its payouts capabilities for e-commerce platforms and marketplaces.

The large international technology companies and payment networks active in Canada made some significant measures to bring more real-time direct payments and mobile payments to Canada. Both Mastercard Send and Visa Direct established a more solid footing through partnerships with Canadian banks to utilize their debit card networks for direct, real time payments from bank accounts to people and businesses.¹⁴ In addition, Interac Corp and PayPal announced partnerships with Mastercard Send to use the Mastercard network to reach international consumers and businesses.¹⁵ Google Pay gained momentum through additional partnerships with Canadian financial institutions to support credit and debit card transactions¹⁶, and Apple Pay contactless use grew in Canada.

2018 was an important year for Canadian payments systems Modernization. Payments Canada introduced enhancements to the retail batch payments system, the ACSS, that allow Canadian businesses to exchange direct payments (i.e, AFT debits and credits) more frequently, and to provide improved funds availability. Benefits are most substantial for companies in Western Canada.¹⁷ In addition, the migration from the exchange of paper cheques to the use of cheque images was nearly completed, with about 70 per cent of cheques exchanged electronically as images.¹⁸

Regulators were also very influential in shaping the payments environment with a focus on defining public policy objectives for future systems, payment types and participants in the payments systems. A new regulatory oversight regime is currently being planned in Canada (Retail Payments Oversight Framework), which will, among other things, regulate non-bank payment services.¹⁹ In addition, the Department of Finance completed reviews and consultations on the merits of open banking and has been exploring the best approach for Canada to enable and regulate open banking technologies.²⁰

14 BMO is the first large Canadian FI to offer Mastercard Send. TD, Peoples Trust, and DC Bank are the first Canadian FIs to offer Visa Direct in Canada. All five major Canadian banks currently offer Visa or Mastercard debit cards for use in online commerce or international POS payments.

15 Please see: <https://newsroom.mastercard.com/press-releases/mastercard-and-interac-collaborate-to-give-canadians-a-fast-simple-and-secure-way-to-send-money-globally/>

16 Please see: <https://www.interac.ca/en/googlepay.html>

17 Please see: https://www.payments.ca/sites/default/files/04-Aug-17/eng_publication_combined_with_watermark.pdf

18 Several Canadian financial institutions offer apps for remote deposit capture, through the digital representation of the front and back of a cheque.

19 Please see: <https://www.payments.ca/about-us/news/2019-federal-budget-includes-measures-improve-canadian-payment-system>

20 Ibid.

FINDINGS

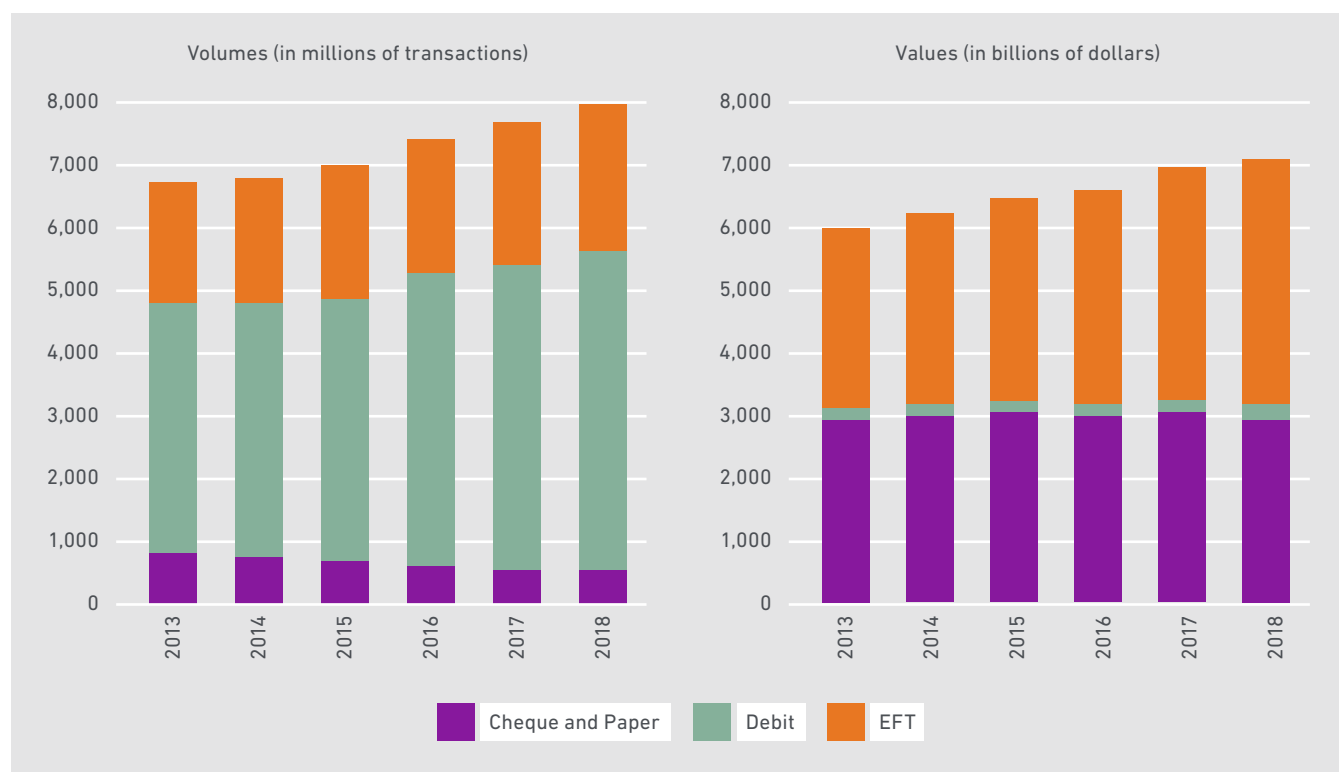
The sections below build upon a number of different data sources, including the data provided by the ACSS as well as other consumer and business payments data. This combination of data sources provides a holistic view of the payment trends observed in Canada.

ACSS Data

The national retail clearing system, the ACSS, cleared and settled 7.9 billion payments worth \$7.1 trillion in 2018. The ACSS provides the cornerstone of our analysis as it provides a third of the volume data and two-thirds of the transaction value data used in the country.

The ACSS is used by financial institutions to clear deposit account based paper and electronic payment items. The transactions are mainly low-value, high-volume retail payments, which can be categorized into three main types: cheque and paper, debit, and EFT.²¹ **Figure 1**, below, provides an overview of how these categories have changed over the last five years, in volume and value terms. In 2018, electronic payments in the ACSS made up 94 per cent of the total volume and 58 per cent of the total value. EFT payments (e.g., pre-authorized debits and direct deposits) collectively continue to maintain the largest share of value, followed by cheques.²²

Figure 1: ACSS Historical Volume and Value



²¹ Debit includes ABM, POS and INTERAC® Online; EFT includes AFT debits and credits, EDI and electronic remittances.

For more details on the ACSS please see <https://www.payments.ca/about-us/our-systems-and-rules/retail-system>

²² In the system statistics, there are movements of funds by large financial institutions made via cheques which may inflate the overall value we are observing with cheques.

Overall Canadian Payment Transaction Trends

In 2018, the Canadian payments market consisted of 21.1 billion transactions, worth \$9.9 trillion. Since 2013, the total payments market has increased by an average of one per cent per year in payments volume, and an average of five per cent per year in payments value. The average transaction size of the combined payment methods was \$468 in 2018, up 22 per cent since 2013 (Table 1).²³

Table 1: All Payment Method Annual Totals

Payment Method	Total Volume 2013		Total Volume 2018		Total Value 2013		Total Value 2018	
	in millions	%	in millions	%	\$ millions	%	\$ millions	%
Cash	7,399	37%	4,467	21%	135,307	2%	92,096	1%
Debit	4,681	23%	6,050	29%	205,815	3%	255,600	3%
Credit Card	3,884	19%	5,907	28%	390,176	5%	551,497	6%
EFT	2,350	12%	2,846	13%	3,380,486	44%	4,889,627	49%
Cheques and paper	944	5%	667	3.2%	3,526,551	46%	3,891,136	39%
ABM	657	3%	499	2%	77,069	1%	68,217	1%
Prepaid Cards	175	1%	304	1%	10,476	0.1%	18,155	0.2%
Online Transfers	59	0.3%	397	2%	20,727	0.3%	134,769	1%
TOTAL	20,149	100%	21,138	100%	7,746,608	100%	9,901,098	100%

The main difference between 2013 and 2018 is the remarkable transition away from paper-based payments to electronic payments. In total, electronic payments transactions accounted for 73 per cent of the total payments volume and 59 per cent of the total payments value in 2018. Since 2013, electronic payments volume has captured an additional 18 per cent of the total payments market volume.²⁴ This can be largely attributed to the increased adoption of emerging payment channels, including contactless, e-commerce and P2P payments, that Canadians find great convenience in. In 2016, debit card transaction volume at the POS surpassed cash transactions. In 2018 credit card transaction growth again outpaced debit card transaction growth. Credit cards are poised to take over the top spot for volume at the POS in the coming years.

Cash payments volume declined by over 40 per cent between 2013 and 2018, ceding nearly three billion transactions to card payments. Since 2013, debit and credit card based transactions have been the biggest beneficiaries, each making tremendous strides in mostly their volumes of contactless payments. The 2018 data show that debit and credit card transactions each grew their share of the total transaction volume, expanding to 28 and 29 per cent of the total volume respectively. Credit cards have made sharp gains in the overall transaction volume, growing by 51 per cent over five years, and almost catching up to Canada's volume of debit card transactions.

EFT and cheque transactions still dominate the overall transaction value in Canada. EFT and cheques combine for over \$8.8 trillion and 89 per cent of the total transaction value. The historical comparison of transaction value illustrates Canada's transition away from cheque and paper items to the use of direct EFT payments. In 2013, cheque and paper items represented 46 per cent of the total value of transactions, while in 2018 the value had dropped to 39 per cent. EFT was 49 per cent of the total transaction value in 2018, with EFT having surpassed the total value of cheque and paper items several years ago.²⁵

Credit cards make-up more than twice the total value of transactions of debit cards (six per cent and three per cent, respectively), making credit cards a key focal point in the transaction environment analysis below.

²³ Please see **Appendix I** for a historical overview of the payment method average transaction sizes.

²⁴ If we compare 2018 to 2008, we see some significant differences. In 2008, electronic payments made up only 41 per cent (growing by 76 per cent in 2018) and 39 per cent (growing by 97 per cent in 2018) of the total volume and value shares, respectively.

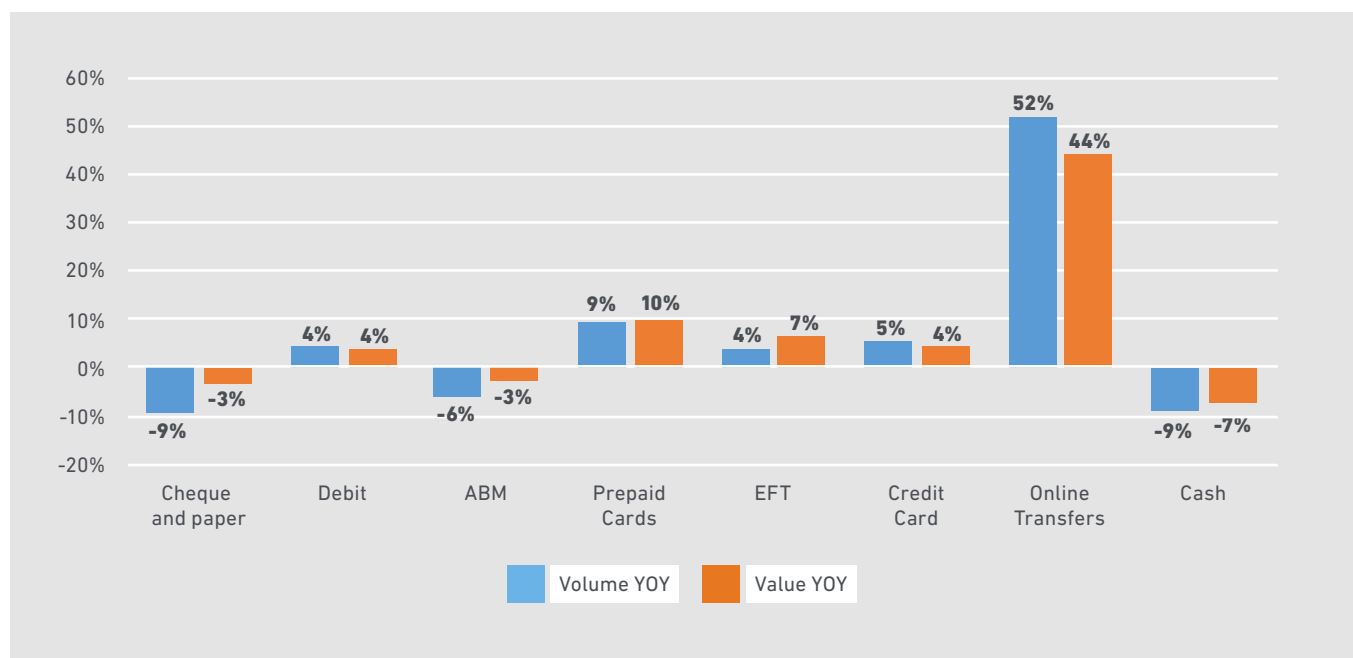
²⁵ **Figures A4a** and **A4b** in the **Appendix** provide tables comparing 2013 and 2018 volumes and values.

Year-over-year 2018

The analysis also included a look at the year-over-year changes, comparing the 2018 data to 2017. This perspective allows us to identify if trends from past years have continued, or if new trends may be emerging.

Overall, electronic payments continue to grow, and paper-based payments continue to decline.²⁶ Prepaid card use has outpaced debit and credit card growth but still only represents one per cent of volume and 0.2 per cent of value. Cheque and paper volumes declined by nine per cent year-over-year, and values declined by four per cent indicating that Canadian consumers and businesses still see value in these payment types for higher value transactions. EFT growth has softened from 2017, but this payment type still accounts for 49 per cent of payments value. Finally, the data show the explosive growth of online transfers, a payment category that encompasses both *Interac* e-Transfer transactions and certain PayPal transactions. Even though the growth is significant, online transfers only make up a small portion of the total volume and value shares (two per cent of the total volume share and one per cent of the total value share).

Figure 3: Volume and Value Growth Year-Over-Year (2017 – 2018)



²⁶ Electronic payments include debit cards, prepaid cards, EFT, credit cards and online transfers. Paper-based payments include cheques, paper, ABM and cash.

THE PAYMENT ENVIRONMENTS

Canadians conduct payments in two distinct payment environments that support different use cases and payment options.

The point-of-sale (POS) environment includes transactions that take place in physical stores or via virtual merchant locations, including online store fronts and in-app commerce. POS payments methods include cash, prepaid, debit and credit card transactions. In 2018, POS payments accounted for almost 75 per cent of the total Canadian transaction volume, and nine per cent of the total transaction value. POS payments as a share of total Canadian payments volume and value have not changed since 2013. The average value of a POS payment in 2018 was \$54.

The remote environment includes cheques, EFT and online transfers (electronic account-to-account transactions). Remote transactions use financial institutions or payment service providers as intermediaries that accept payment instructions and move funds to payees through their services. In 2018, remote transactions represented 25 per cent of the total volume and 91 per cent of the total transaction value.²⁷

A. Proximity Transactions and the Evolving POS Environment

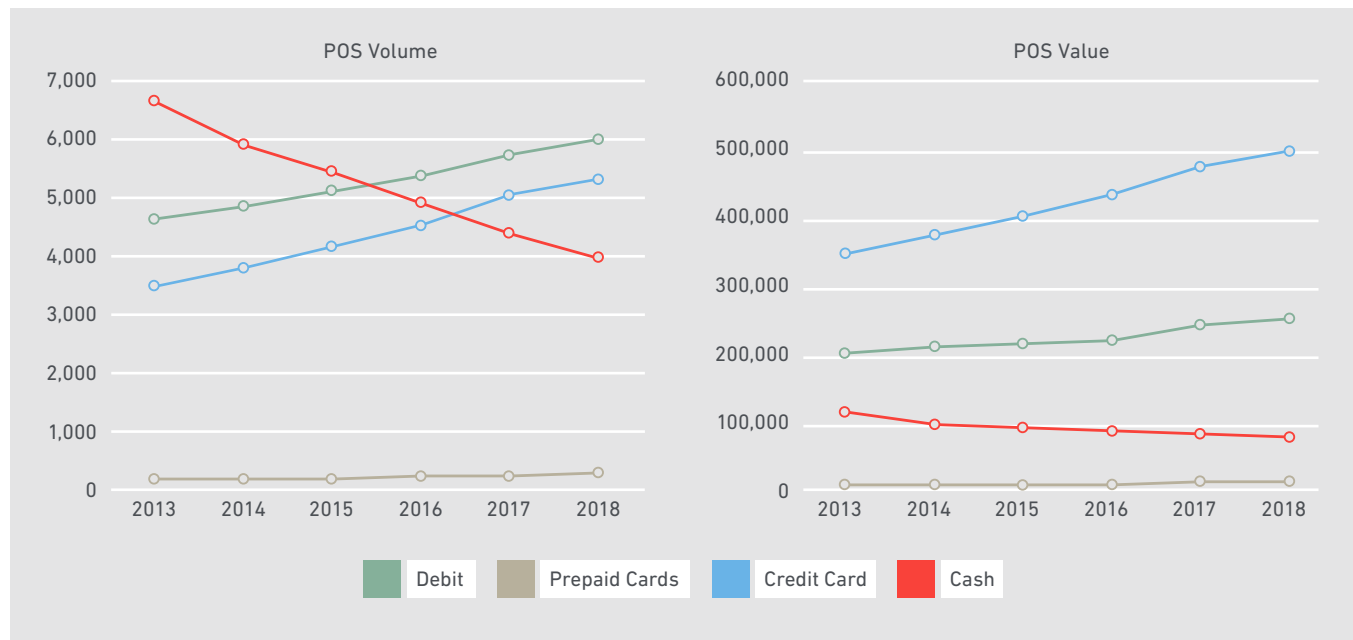
In 2018, there were a total of 15.7 billion POS payments worth over \$856 billion.²⁸ In the last five years, POS volume has increased by a total of five per cent, while POS value increased in total by almost 25 per cent. The proliferation of new entrants (e.g., Square, Dream Payments and others) offering merchants new ways to accept payments has also impacted Canadian payment behaviour at the POS. These companies have helped more merchants move away from cash and expand into e-commerce. **Figure 4**, below, provides a historical overview of POS volume and value.

An important trend in the POS environment is the growth of electronic payments. Research demonstrates that convenience and rewards are important drivers of this trend (discussed in detail below). The payment-card-acceptance footprint is also expanding to include in-app payments and devices, such as game consoles and smart speakers, to bring payments into emerging channels where Canadians increasingly want to transact.

²⁷ Please see **Figure A3** in the **Appendix**

²⁸ For the purposes of this research, the POS includes both physical and virtual merchant locations, including online and in-app transactions.

Figure 4: POS Historical Volume and Value



CASH

Highlights

- Cash transactions at the POS have been declining for the last decade as cash payments have been replaced by debit and credit card payments.
- In 2018, both debit and credit transaction volume was higher at the POS than cash volume.
- Contactless payments (via cards and mobile devices) have been responsible for replacing large volumes of cash transactions.
- Cash transaction volume declined by nine per cent in 2018, to represent 26 per cent of total POS payments volume in 2018 (in comparison to 44 per cent of the total POS volume in 2013).
- Cash transaction value declined by seven per cent in 2018, to represent 10 per cent of the total value of POS payments in 2018 (in comparison to 18 per cent of the total POS value in 2013).
- Although the use of cash at the POS is declining, there are many businesses that prefer cash payments to cards (e.g., convenience stores, transit).
- 63 per cent of Canadians regularly made cash purchases from businesses in 2018, including about 15 per cent of Canadians that were heavy cash users (those that made over half of their total payments via cash).²⁹
- Cash continues to support payments for the underground economy.

²⁹ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

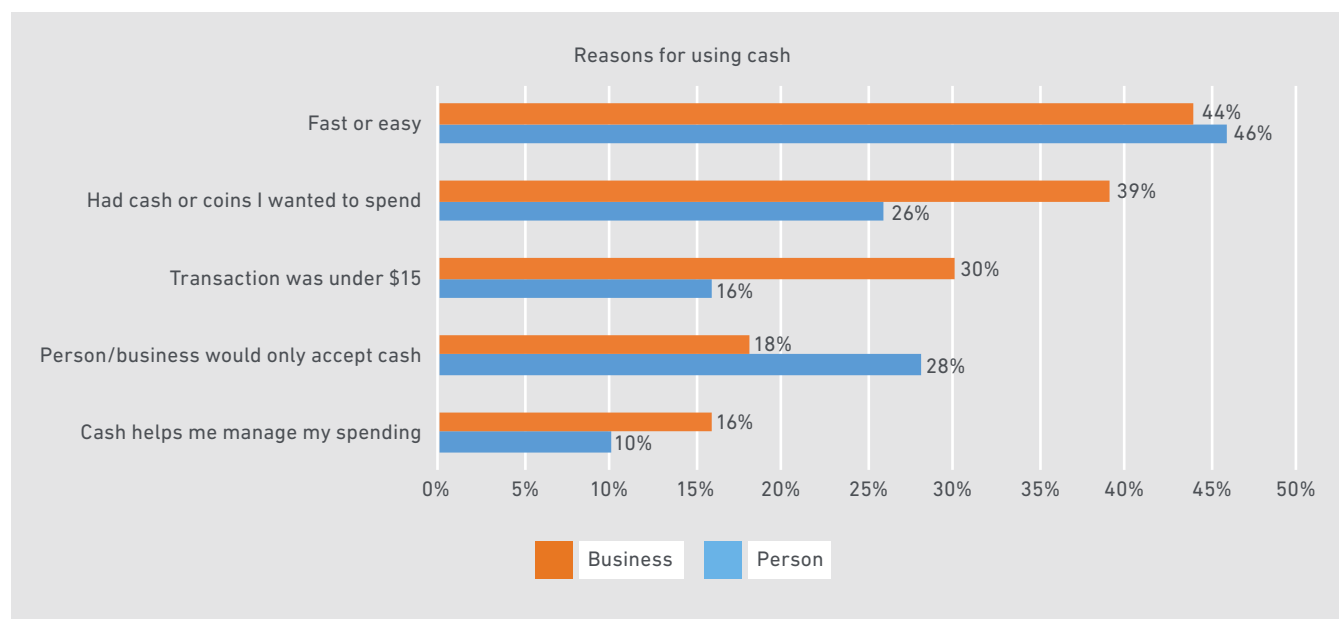
In 2018, there were a total of 4.5 billion cash transactions, worth \$92.1 billion. Cash accounted for about 26 per cent of the total volume of all POS transactions and about 10 per cent of POS transaction value. In total, cash volume is down by about 40 per cent, since 2013. Cash has been losing volume to card payments at the POS for the last decade as contactless credit and debit cards, along with prepaid cards, began to take off in Canada. For the first time in 2016 at the POS, total cash volume (POS and remote transactions combined) was surpassed by debit card transaction volume, marking a significant milestone in Canadian payments habits. This trend continued in 2017.

Cash is still prevalent for many, as 63 per cent of consumers reported making a cash purchase from a business in the past seven days.³⁰ Cash use remains strong with those identified as heavy cash users³¹ and by those who engage in the underground economy.³² About 15 per cent of respondents indicated that they were heavy cash users in 2018.

A wide swath of Canadians were heavy cash users in 2018, using cash for over 50 per cent of their total purchases. Surprisingly, younger Canadians (18 to 24 years old) were well represented among the heavy cash users, constituting nearly one out of five of the highest cash using group. While the data supports the notion that younger Canadians are more technology oriented, they also have lower incomes and are less likely to be fully banked, resulting in a greater reliance on cash for purchases.³³

The most popular driver of cash usage for both consumers and businesses is speed and ease of use. This driver is closely followed by the desire of consumers to spend cash and coins that are on hand. Additional important drivers of cash usage for consumers is payment acceptance and how some people/businesses will only accept cash. This behaviour may explain several cash intensive use scenarios, such as payments to a person, rent payments, paying for home services, or making donations (see **Figure 5**).

Figure 5: Reasons for Using Cash to Pay a Person or Business³⁴



30 Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

31 Heavy users are defined as those consumers who utilize a specific payment method for more than 50% of their monthly purchases.

32 Cash is one of the main contributors to the underground economy, which was estimated to be worth \$51.6 billion in 2016 (the last year data is available) by Statistics Canada. The three industries that accounted for more than half of underground economic activity include: residential construction, retail trade and accommodation and food services. For more information on the underground economy, please see <https://www150.statcan.gc.ca/n1/daily-quotidien/181012/dq181012a-eng.htm>

33 Most 18 to 24 year olds have incomes lower than \$19,000 and about one in four of them do not own a debit or a credit card. They may also be contributing to the gig economy, which is resulting in higher than average cash on hand. Many young cash users are also from more rural provinces, such as Manitoba and New Brunswick.

34 Ibid.

Highlights

- Debit transaction volume continued to outpace cash volume at the POS.
- The average debit transaction was \$42.
- Debit contactless made up almost 60 per cent of the total volume of contactless transactions and 35 per cent of the total value of contactless transactions.
- The vast majority of debit used in online purchases and for in-app transactions are Visa and Mastercard debit payments.
- Debit transaction volumes increased by four per cent in 2018, to represent 38 per cent of the total POS volume in 2018 (in comparison to 31 per cent in 2013).
- Debit transaction values also increased by four per cent in 2018, to represent 30 per cent of the total POS value in 2018 (about the same as in 2013).

Debit card use continued to outpace cash usage in 2018, where Canadians used debit cards for nearly 35 per cent more transactions than cash. Canadians are also now using their debit cards more frequently for their everyday lower value purchases. Contactless debit (card and mobile) is now widely viewed as a convenient and easy substitute for cash (discussed in more detail in the contactless section). In the overall payment analysis above, we noted that overall credit card volume almost caught up with debit card volume in 2018. However, in the POS environment debit volume maintains a significant lead over the volume of credit cards, owing mostly to debit based contactless transactions.

Generally, debit cards are used for more lower value transactions than credit. This fact has contributed to Canadians using debit more frequently for contactless transactions, and credit cards for larger value purchases. As such, the average transaction size for credit cards is more than double that of debit cards – \$93 and \$42 respectively.³⁶

Visa and Mastercard branded debit is thriving in e-commerce use cases. In 2018 nearly 20 per cent of e-commerce transactions were made using a Visa or Mastercard debit payment, accounting for 15 per cent of the e-commerce transaction value. This development has come at the expense of other debit base alternatives, including PayPal and Interac Online.

³⁵ Debit cards include all debit card transactions (e.g., card on file, contact and contactless (including card and mobile) payments).

³⁶ The number one reason stated for switching a pre-authorized payment to a credit card was that the consumer wanted to collect more rewards. TSI Canadian Consumer Payments Survey, TSI 2019.

Highlights

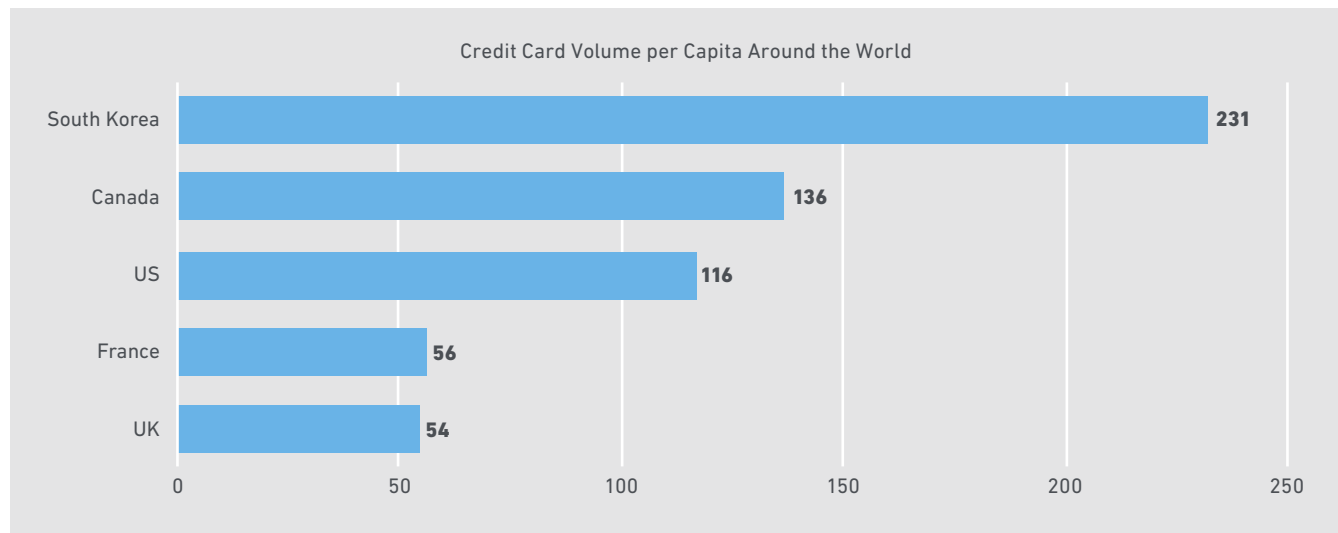
- Credit card payments at the POS have been growing faster than debit card payments. This trend is due mostly to credit card rewards and the growth of e-commerce in Canada, where credit cards are the preferred method of payment.
- Credit cards dominate the POS transaction value, accounting for more payments value than all other payment methods combined.
- Credit card transactions at the POS have grown by 41 per cent since 2013.
- Credit cards were the second-most-popular payment type at the POS in 2018.
- Credit card transaction volumes increased by five per cent in 2018, to represent 34 per cent of the total POS payment volume in 2018 (in comparison to 23 per cent in 2013).
- Credit card transaction values increased by five per cent in 2018, to represent 58 per cent of the total POS payment value in 2018 (in comparison to 51 per cent in 2013).
- The overall average credit transaction was \$93.
- Canadians spend an average of \$320 per week via credit card contactless.
- Canadians continue to be heavy credit card users, second only to South Korea in credit card volume per capita (see **Figure 6**).
- Canadians are also making more remote credit card payments, opting to use their credit cards for more recurring household bills and expenses. This trend is also linked to the loyalty/rewards programs offered by credit card issuers.³⁸

Credit card POS transaction value is more than all of the other POS payment methods combined, accounting for almost 60 per cent of the total POS value. Credit cards are highly entrenched into the payments of Canadians. When looking at the countries with the highest credit card volume per capita from the top 10 economies, the Bank for International Settlements research finds that Canadians are global leaders in credit card usage (**Figure 6**).

³⁷ Credit cards include all credit card transactions (e.g., card on file, contact and contactless (including card and mobile) payments

³⁸ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

Figure 6: Annual Credit Card Volume per capita Around the World³⁹



Source: BIS (2017)

Canada's exceptional credit card use can be traced to a number of key factors. Research reveals that the main contributing factors are credit card rewards and the expansion of e-commerce in Canada.

Canada has very high credit card issuance, where nearly nine out of 10 Canadians have a credit card. In 2018, nearly 80 per cent of Canadians had a credit card that offers some form of reward.⁴⁰ Rewards programs are a key driver for Canadians choosing to use their credit cards; past research on the topic showed rewards were the top reason Canadians reported for using their credit cards.⁴¹ Rewards have been a key driver in turning more Canadians into heavy credit card users, or those that use their credit cards for more than 50 per cent of their monthly payments.

While more Canadians transact online to engage in e-commerce their payment options are often more limited than in the physical POS. Credit cards are the most widely used payment method in e-commerce, and the reasons and implications of this are explored in detail in the e-commerce section below.

³⁹ Available at Bank for International Settlements (BIS) website: <https://stats.bis.org/statx/toc/CPMI.html>

⁴⁰ The most popular type of rewards card included cashback rewards, followed by travel rewards. Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

⁴¹ 2016 Canadian Methods and Trends Report, Payments Canada (2016); p. 11.

PREPAID CARDS

Highlights

- Although prepaid cards had the highest year-over-year POS growth rate in 2018 (nine per cent increase in volume; 10 per cent increase in value), they represent a very small percentage of total POS transactions (two per cent of both POS volume and value).
- 80 per cent of prepaid POS purchases are made using closed-loop/store cards. The most common retailer cards are Starbucks, Tim Hortons, iTunes and GooglePlay.⁴²
- Prepaid is also being lifted by e-commerce, where Canadians are three times more likely to use a prepaid payment than at the physical POS.

In 2018, prepaid cards, either plastic or virtual, drove the growth of payment methods at the POS, growing by over nine per cent and 10 per cent in volume and value terms, respectively. When comparing open- and closed- loop cards, closed-loop/store cards are leading the way and make up almost 80 per cent of both the total volume and value of prepaid cards.

Nearly one in five Canadians either purchased or received at least one prepaid card per month. Young and unbanked Canadians are the most common users of prepaid payment products.⁴³ Interestingly, the self-employed were significantly more likely to have purchased or received a prepaid card than those who are employed or retired.⁴⁴

Prepaid payments have been buoyed by emerging e-commerce and mobile payment trends. Prepaid cards accounted for three per cent of e-commerce payments in 2018. Canadians were three times more likely to use a prepaid payment for e-commerce, than they were at physical POS merchant locations.⁴⁵

Prepaid card use is also expanding due to mobile payments. In 2018, 80 per cent of prepaid POS purchases were made using closed-loop/store cards, with a growing proportion being linked to the use of mobile devices and virtual prepaid cards. About a quarter of Canadians routinely purchased virtual prepaid cards in 2018, with the most common brands being Starbucks and Tim Hortons. These brands are associated with store branded mobile payment apps that work with store branded prepaid payment products to provide mobile contactless payments.⁴⁶

⁴² Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ The increasing use of prepaid cards online may also be linked to fraud concerns, as people do not want to use their personal cards online. A recent study finds that 70 per cent of Canadians are more concerned about fraud today than they were five years ago. Available at: <https://www.cpacanada.ca/en/the-cpa-profession/about-cpa-canada/media-centre/2019/february/canadians-express-strong-concerns-about-fraud-cpa-canada-survey>

⁴⁶ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

CONTACTLESS PAYMENTS (VIA CARD AND MOBILE DEVICES)

Highlights

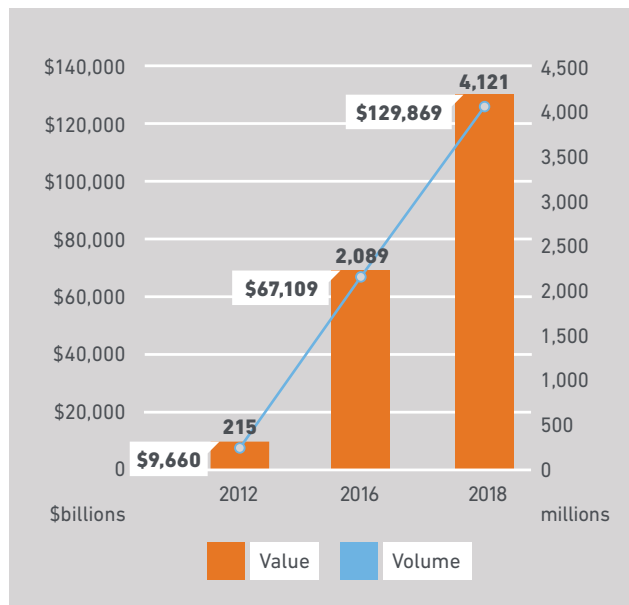
- The average weekly credit card contactless transaction spend was \$320.
- The average weekly debit card based contactless transaction spend was \$187.
- Credit contactless users tend to be younger, have higher earnings, and live in British Columbia and Ontario.
- Nearly 35 per cent of Canadians have used their mobile device for contactless payments on a regular basis in 2018.

The growth of contactless payments (card and mobile) at the POS continued its strong trajectory in 2018.⁴⁷ A total of 4.1 billion contactless transactions worth \$129.9 billion were made, an increase of almost 30 per cent in 2018, in terms of both volume and value (see **Figure 7**) in 2018.

In 2017, for the first time, the share of debit contactless transactions was bigger than the share of credit contactless transactions. This trend continued into 2018, where debit contactless made up almost 60 per cent of the total volume of contactless transactions. In terms of value though, credit contactless continued to dominate, and made up 65 per cent of the total value of contactless transactions. In general, contactless payments are most popularly used at grocery stores, pharmacies and gas stations.⁴⁸

Even though mobile contactless usage is growing, it has had a slower uptake than contactless cards.⁴⁹ Concerns about security remains the key barrier of usage, with fewer than a third of consumers expressing their belief that mobile payments are safe and secure.⁵⁰

Figure 7: Contactless Volume and Value (in millions)



⁴⁷ Contactless transactions are defined as using a payment card or mobile device tap to initiate a payment through a POS reader (in physical merchant locations).

⁴⁸ The average value of a contactless transaction is \$47. TSI Canadian Consumer Payments Survey, TSI 2019.

⁴⁹ However, in the last year, Apple Pay experienced the largest increase in penetration, from nine per cent in 2018 to 16 per cent in 2019. TSI Canadian Consumer Payments Survey, TSI 2019.

⁵⁰ TSI Canadian Consumer Payments Survey, TSI 2019.

THE E-COMMERCE ENVIRONMENT

Highlights

- Canadians feel more confident and secure using credit cards for e-commerce.
- The interchange model for the Visa and Mastercard debit network allows for a different user experience on their debit products, and these cards can be used to support card-on-file transactions. This has created an opportunity for Visa and Mastercard debit in Canada. *Interac Online acceptance remains low.*
- Prepaid cards are being used by younger Canadians and those without credit or debit cards to engage in e-commerce.

E-commerce is defined as the use of web-based store fronts and applications to procure goods (including digital items) and services from businesses. E-commerce payments result from completing transactions through merchant (payee) provided online store fronts and software applications, via computers, tablets or mobile devices. This payment channel has become increasingly popular due to its convenience and ease of use. The 2018 data suggest that e-commerce accounted for over \$199 billion in Canada, and about 20 per cent of the total value of POS transactions.⁵¹ Overall, clothing, footwear and accessories remain the most popular category for online purchases (at over 50 per cent).⁵²

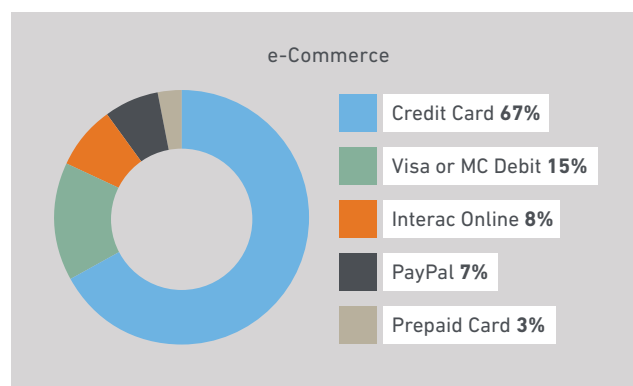
Consumer e-commerce transaction value is dominated by credit cards with two thirds of the total value being generated on this payment method. Visa or Mastercard debit cards follow with 15 per cent (**Figure 8**).⁵³ When the proportion of prepaid and PayPal that is linked to Visa and Mastercard credit and debit is factored in, Visa and Mastercard payment products combined to account for about 90 per cent of all of the e-commerce transaction value.

Consumers are increasingly conducting e-commerce transactions 'in-app' using their mobile devices. In these cases, "card on file" information is leveraged for

payments, enabling a speedier and more convenient payment experience. Canadians make, on average, about four in-app purchases per month.⁵⁴ However, the majority of adult Canadians (over 50 per cent) are concerned about the security of their payment information being stored on a smartphone or tablet.⁵⁵

Consumers now also make in-app payments through applications and technologies provided by Google Home, Alexa, Facebook and Instagram. More information on these emerging e-commerce channels is available in Featured Analysis A.

Figure 8: Consumer e-commerce Transaction Value



51 Payments Canada's e-commerce estimates differ from other published sources (e.g., StatsCan) in several notable ways. Figures for travel, accommodation, entertainment, and online transactions originating from businesses are included.

52 TSI Canadian Consumer Payments Survey, TSI 2019.

53 Debit cards used for e-commerce use credit card rails as the cards are co-badged such that Visa and Mastercard networks are used for online and international transactions.

54 Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

55 TSI Canadian Consumer Payments Survey, TSI 2019.

A CLOSER LOOK AT CANADA'S EVOLVING USE OF E-COMMERCE

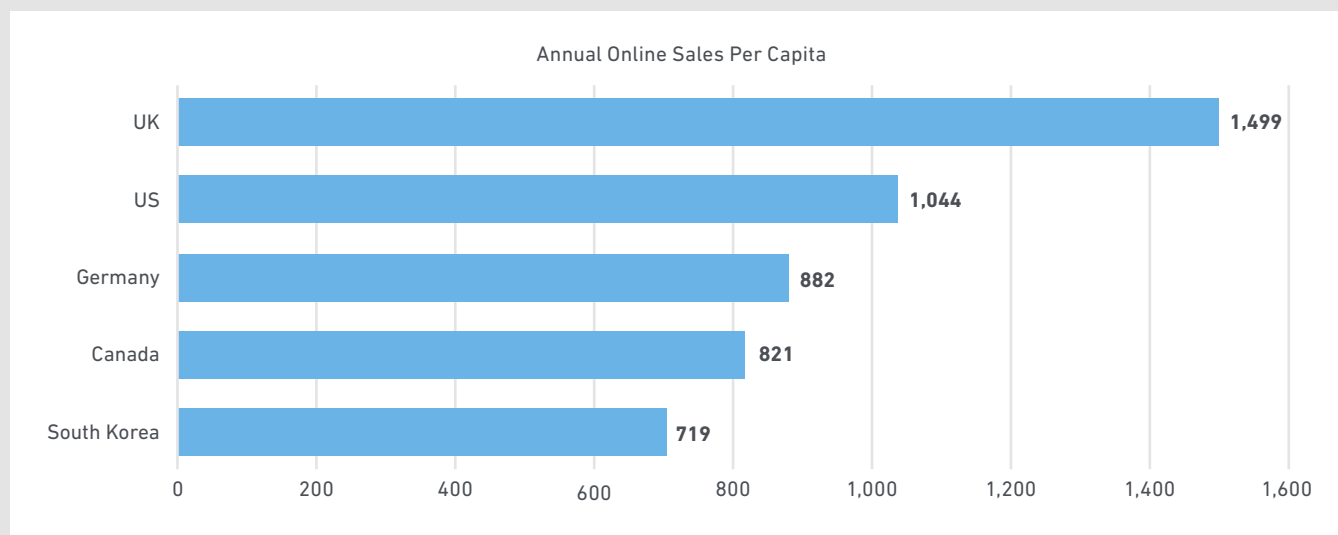
Authors: Michael Tompkins and Viktoria Galociova, Payments Canada

The views expressed in this article are the personal views of the authors and do not represent the views of Payments Canada.

GLOBAL E-COMMERCE

Today, e-commerce offers exceptional convenience to consumers and businesses, enabling goods to be purchased from all around the world. Retail e-commerce sales worldwide amounted to \$2.8 trillion USD in 2018.⁵⁶ The global leader in annual online sales per capita is the UK, followed by the US. Canada ranks fourth, with \$30 billion in annual online sales, placing it among the global leaders in consumer e-commerce.⁵⁷ **Figure 1** illustrates five of the largest e-commerce markets in the world.

Figure 1: Top Five Largest e-commerce Markets: Annual Online Sales Per Capita⁵⁸



Featured Analysis A continues...

⁵⁶ Available at: <https://www.shopify.com/enterprise/global-e-commerce-statistics>

⁵⁷ This report is based on 2016 statistics. Available at: <https://www.business.com/articles/10-of-the-largest-e-commerce-markets-in-the-world-b/>

⁵⁸ Available at: <https://www.business.com/articles/10-of-the-largest-e-commerce-markets-in-the-world-b/>

CANADA'S E-COMMERCE

Following the global trend, an increasing share of overall Canadian purchasing is taking place through e-commerce, as opposed to physical merchant stores or locations. More than half of Canadians (53 per cent) made at least one online transaction per month. Canadians that use e-commerce, made an average of five e-commerce transactions worth \$340 per month in 2018.⁵⁹ If business purchases are included, the total value of Canadian e-commerce was about \$199 billion in 2018.

Over the past ten years, Canadian e-commerce has changed in significant ways. However, global payment networks (such as American Express, Mastercard and Visa) continue to be the preferred ways to pay online. Although more and more businesses leverage the e-commerce platform, the number of payment options remains limited.

CANADA'S E-COMMERCE EVOLUTION BETWEEN 2008 AND 2018

Rewinding back to 2008, PayPal was the payment choice for Canadians for over 40 per cent of e-commerce transactions (the vast majority of PayPal transactions were linked to credit cards). PayPal set a high standard for the online payment experience, acting as a trusted third-party that offered consumers security when dealing with unknown online merchants, and the convenience of storing payment and shipping information. On the acceptance side, PayPal was widely deployed by online merchants.

In 2018, the e-commerce landscape in Canada has evolved. Consumers are increasingly purchasing goods and services using a mobile device, in-app payments have removed payment friction by storing payment information, and merchants have acquired more options than in the past.

E-COMMERCE SHIFTING FROM COMPUTERS TO MOBILE AND OTHER HOUSEHOLD DEVICES

Around 2010, Canadians began embracing mobile devices for e-commerce payments. By 2018, 36 per cent of e-commerce transactions were initiated using a mobile device or a tablet.⁶⁰ Canadians' early comfort with mobile devices made in-app purchases and the use of other home devices, such as video game platforms, almost natural. As these new channels emerged, new processes for payments were established. Canada followed the US in using technology giants, such as Apple and Google, to store payment card and shipping information to enable payments and commerce, much like PayPal did for a number of years previously. This trend gave way to a more liberal use of "card-on-file" payments and payment tokenization based on international card networks card numbers.

Finally, in the past five years or so, online providers of goods and services moved away from web pages to the development of device applications that allowed users to download an entire shopping service, or entertainment experience, accessible by a single tap of their finger.⁶¹ These applications have invited Canadians to store their payment information to enable highly convenient transactions directly between users and the online service application (e.g., Uber, SkipTheDishes, Amazon, Walmart apps). As these applications quickly came to the market, international card networks were ready to facilitate the payment volume. International networks were well positioned to translate their previous existing processes for e-commerce and PayPal to the myriad of new application services that required payments.

Other areas that continue to emerge in the online space include in-app, game console and smart payments. In 2018, 18 per cent of Canadians made an in-app purchase and about nine per cent of Canadians used a game console to make a payment.⁶² Smart payments (payments via Google Home, Facebook etc.) are also emerging as new forms of in-app payments in Canada. In-app payments are becoming more and more popular, revolutionizing the traditional retail and gig economy through applications such as Uber and Airbnb.

Featured Analysis A continues...

⁵⁹ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

⁶⁰ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

⁶¹ Atlantic Canadians are significantly less likely than any other province to have made a purchase from a web page in the last month. Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

⁶² Ibid.

Another big transformation in Canadian e-commerce has been with the diversification of payment services that enable payment acceptance for merchants and small businesses. Today, online businesses' payment acceptance services include a variety of traditional and new payment service providers (e.g., Moneris, Square, and Shopify). As more merchants and businesses offered products online, traditional acquirers and new providers like Shopify eventually caught-up to PayPal. For other providers like Square and Stripe, the transition away from computers to mobile e-commerce opened up opportunities to get into e-commerce.

E-COMMERCE HAS CHANGED BUT THE PAYMENT OPTIONS ARE FUNDAMENTALLY THE SAME

Despite the diversification in acquiring services and payment channels, international card networks have expanded their dominance over Canada's e-commerce payments. Visa- and Mastercard-branded debit, credit, and prepaid products, including through the PayPal network, have grown to account for over 90 per cent of the e-commerce transaction value in Canada. While Visa and Mastercard credit-card-based transactions have always been prominent in e-commerce, Visa and Mastercard debit and prepaid cards have also emerged to become the "alternatives" to credit card use. While these offer options for payors, payees may not notice much of a difference in the costs associated with payment acceptance from the different Visa or Mastercard branded instruments. The consequence for many Canadian online merchants and businesses is that they have no choice but to rely upon international card network payments in order to conduct e-commerce.

Co-badged debit cards have become the norm in Canada, with five of the six largest banks offering debit cards that default to Interac for physical merchant locations, and to Visa or Mastercard for e-commerce. Most Canadians may not be aware that when they use their debit card online, it automatically becomes a Visa or Mastercard branded debit transaction. These arrangements have led to Visa and Mastercard branded debit card volume growing to become the second highest payment method used online (behind credit card use). The data estimate that Visa debit and Mastercard debit have expanded to account for 15 per cent of the total value of consumer initiated e-commerce in Canada.

Visa and Mastercard open-loop prepaid cards have also thrived in Canadian e-commerce payments. Prepaid transactions accounted for over three per cent of the total e-commerce transaction value in 2018. Prepaid card usage has grown by over 10 per cent annually over the last 10 years, with e-commerce being a key growth area.

With over 90 per cent of the total volume and value of e-commerce being paid through the international card networks, Canada's lower fee domestic payment products are struggling to find growth. In 2018, *Interac* Online accounted for about eight per cent of the total value of consumer e-commerce in Canada.⁶³

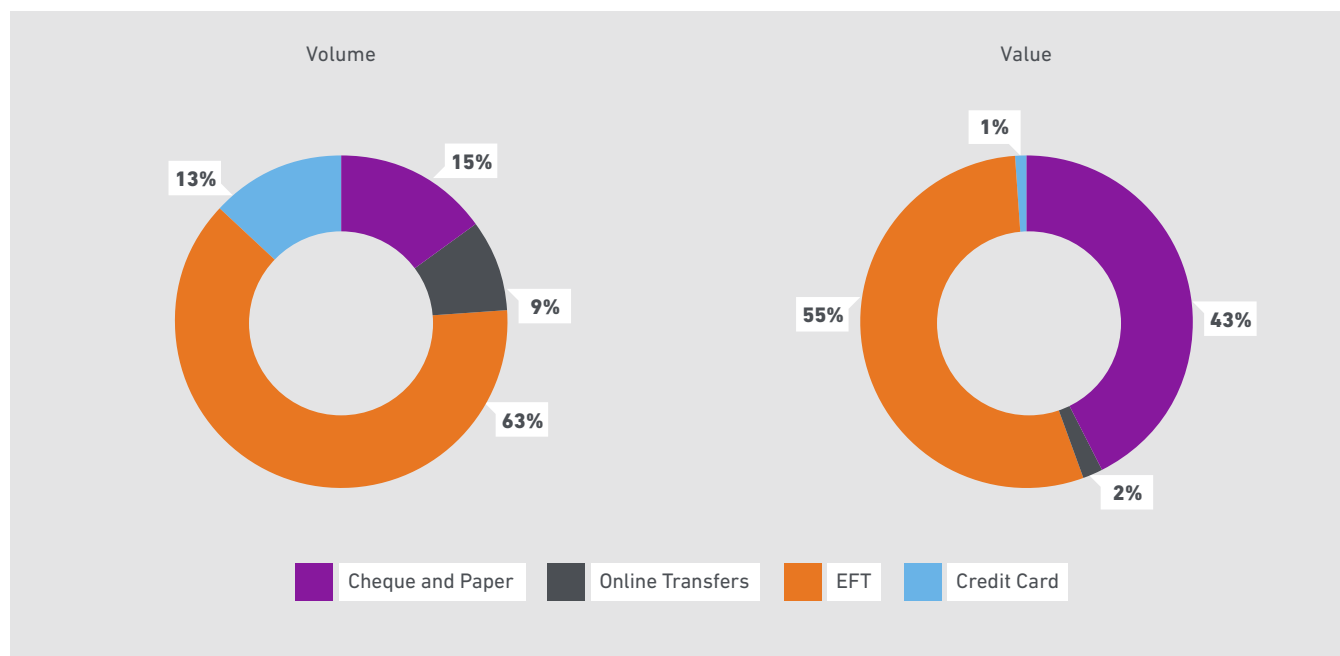
About 20 per cent of all of Canada's shopping has already migrated to e-commerce. As the trend continues, more Canadians will have few choices but to use the international credit card networks, debit, and prepaid payment options. Further, as more Canadian merchants and small businesses move to offer their goods and services through apps (e.g., Uber Eats and SkipTheDishes) they will find few viable alternatives to accepting cards from the international card networks and the associated fees.

⁶³ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

B. The Remote Transaction Environment

Remote transactions include all transactions that do not involve a POS device or application. In the remote environment, payors use a third party, such as a financial institution, to route payments to payees via cheques, EFT and other electronic means. Remote transactions include bill payments, pre-authorized debit (PAD), person-to-person (P2P) payments and business-to-business (B2B) transactions. In 2018, there were a total of 4.5 billion remote transactions worth about \$9 trillion. Cheques and EFT dominated the remote transaction environment in 2018, but credit cards and online transfers had strong growth.

Figure 9: 2018 Volume and Value of Remote Payment Methods⁶⁴



CHEQUE AND PAPER ITEMS

Highlights

- The overall average cheque and paper transaction was \$5,834.
- Cheque and paper transaction volumes declined by nine per cent in 2018, to represent 15 per cent of the total remote payment volume of 2018 (in comparison to 25 per cent of the total volume in 2013).
- Cheque and paper transaction values decreased by four per cent in 2018, to represent 43 per cent of the total remote payment transaction value of 2018 (in comparison to 51 per cent of the total value in 2013).
- Seven out of 10 cheques exchanged between Canadian financial institutions were sent as images in 2018.

⁶⁴ The volume of remote payments may be underestimated in the data because many payments are batched under these streams in the ACSS.

In 2018, cheque and paper item volume declined by nine per cent, compared to 2017. As a result, there were 277 million fewer cheque and paper items exchanged in 2018 than in 2013. Consumer and business cheque volume declined as well (25 per cent and 37 per cent, respectively). Fewer cheque and paper items are being used for payments as Canadians embrace EFT, remote credit card, and online transfer payments. In 2018, 70 per cent of all the cheque and paper items exchanged between Canadian financial institutions were images.

In 2018, cheque and paper use remained an integral segment of remote transactions, where these items represented over 44 per cent of the total remote transaction value. Despite the decline in cheque and paper item volume, the total value of these transactions remains high in Canada. In 2018, the total value of cheque and paper items decreased by four per cent, marking a disruption to the previously established five year average of 1.5 per cent annual value growth. Still, in 2018, even with fewer cheque and paper items being written, the remaining items are being written for increasingly higher amounts. In 2018, the average amount of cheque and paper items was up to about \$5,833, over 50 per cent higher than in 2013 (\$3,737). The trend is driven much more by commercial cheque use than consumer cheque use.⁶⁵

EFT

Highlights

- The overall average EFT transaction size was \$1,718.
- EFT transaction volumes increased by four per cent in 2018 to represent 63 per cent of the total remote payment volume (no change since 2013).
- EFT transaction values increased by six per cent in 2018 to represent 55 per cent of the total remote payment value in comparison to 49 per cent in 2013.

EFT includes remote transactions made through deposit accounts held at Canadian financial institutions, including direct deposits, electronic remittances, pre-authorized debits and other online bill payment transactions (AFT credits, AFT debits, and EDI).⁶⁶ In 2018, there were a total of 2.9 billion EFT transactions worth \$4.9 trillion. EFT transactions dominate remote transactions, as the leading payment type in both volume and value terms.

In 2018, EFT growth was stable at a four per cent volume increase and a six per cent value increase over 2017. EFT growth was observed in both consumer and commercial payments, where EFT was the most commonly used remote payment type for both consumers and businesses. Consumers enjoy the convenience of EFT in making direct payments, and businesses appreciate the low cost of EFT that enables them to make payments enmasse.⁶⁷ EFT use remains vastly ahead of the other remote transactions, but online transfers and remote credit card transactions are starting to become more appealing alternatives. Featured Analysis B explains the importance of ISO 20022 in continuing the trend of high EFT growth.

⁶⁵ Cheque figures include large transactions made between financial institutions for providing and repaying overnight loans, via cheques. These transactions serve to inflate the overall cheque value to some degree.

⁶⁶ To read more, please see: <https://www.payments.ca/about-us/our-systems-and-rules/retail-system>

⁶⁷ Ibid.

ISO 20022 AND THE COMING DECADE

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The views expressed in this article are the personal views of the author and do not represent the views of Payments Canada.

The past decade has seen tremendous growth of EFT payments in replacing the use of cheques. Keeping EFT direct payments on a growth trajectory into the next decade may depend on the outcome of the quiet revolution occurring with the use of ISO 20022. ISO 20022 is the global messaging standard for payments, securities and other financial instruments, which will likely have a profound and potentially transformational impact on payments, both globally and in Canada.

Payments Canada has committed that the payment messages for its modernized systems will follow the ISO 20022 standard. As a result, Canada's core payments clearing and settlement systems will each be transitioned to the standard over the coming decade.

ISO 20022 adoption has the potential to drive greater standardization and efficiency, including contributing to annual cost savings on the \$3 billion to \$6.5 billion that Canadian businesses pay for payments processing. These figures, developed in consultation with Ernst & Young, note that over a five year period, the benefits of payments Modernization to Canadian business could reach as high as \$32 billion.⁶⁸

ISO 20022 involves the development of an agreed upon methodology for the financial industry to utilize consistent message standards across industry business processes. ISO 20022 has three layers: business processes and concepts; message models; and syntax. The most widely used syntax for ISO 20022-based messages is XML, which supports an overall approach that provides for greater flexibility and data richness than traditional payment messages.

ISO 20022 has significant potential. Entities initiating payments can include or attach more and better data with their payment – meaning that the recipient of the payment is better able to reconcile and find efficiencies through a reduction in manual handling and ideally straight-through-processing. ISO 20022's global status also opens up the potential for cross-border interoperability.

First published in 2004, ISO 20022 has been adopted by many countries, most notably as part of the introduction of the Single European Payment Area (SEPA) between 2008 and 2010. However, outside of Europe, adoption has been inconsistent throughout much of the past decade.

Featured Analysis B continues...

⁶⁸ Available at: https://www.payments.ca/sites/default/files/report_costs_of_payments_processing_eng_final_2018.pdf.

This will all change in the coming decade with the announcements by SWIFT, the world's leading provider of secure financial messaging services between financial institutions, of their intentions to adopt the ISO 20022 standard. From November 2021, SWIFT will begin to migrate to ISO 20022, over a four-year transition period (to 2025), after which SWIFT will no longer support its old MT messages. This means that most of the world's wire payments will soon use the ISO 20022 message standards.

In addition, various central banks and major payment system operators have also announced, or are consulting on, parallel ISO 20022 migration plans. For example, Europe will see TIPS and ECMS migrating to ISO 20022 as part of a November 2021 target date. EBA Clearing will similarly migrate its EURO 1 and STEP1 systems. The Bank of England has announced intentions to migrate CHAPS (with enhanced data) to ISO 20022, while the US Federal Reserve and The Clearing House are coordinating within the US to migrate their large value payment system as well. In another example, the Reserve Bank of Australia and Australian Payments Council are aiming for full migration of RITS to ISO 20022 by the end of 2024.

While the SWIFT and central bank announcements are primarily concerned with cross-border and higher value systems, many lower value real-time systems already operate with ISO 20022 or are planning to do so. According to FIS's *Flavors of Fast*, ISO 20022 is becoming increasingly common: for low value real-time systems, with the US RTP (real-time payments platform), Australia's New Payments Platform (NPP), and a number of European systems. Other systems that currently rely on ISO 8583, or proprietary systems, such as, UK Faster Payments, South Africa's Real Time Clearing (RTC) payment system, and systems in Japan, South Korea and Malaysia have all indicated an intention to move across to ISO 20022.

So we are already in the midst of a dramatic shift with ISO 20022 becoming the international messaging standard. This shift creates significant challenges and opportunities for system operators, financial institutions and their customers. These challenges go beyond technical compliance and implementation, as ISO 20022 not only provides the opportunity to create data-rich messages, but is actually a critical piece of the puzzle in developing more efficient industry processes, particularly where there are significant data demands such as corporate and government payments.

Organizations such as Payments Canada will play a critical role in not only updating their systems but also providing support through initiatives such as the 20022 Labs, which will provide a wide range of tools to meet the implementation challenges. The future growth and utility for EFT, one of the main pillars of Canadian payments, may well depend upon realizing the enormous potential of ISO 20022.

ONLINE TRANSFERS

Highlights

- *Interac* e-Transfer dominates online transfers in Canada, particularly for P2P payments.
- The overall average online transfer transaction amount was \$349.
- Online transfer transaction volumes increased by 52 per cent in 2018, to represent nine per cent of the total remote payment volume in 2018 (in comparison to two per cent of the total remote payment volume in 2013).
- Online transfers transaction values increased by 44 per cent in 2018, to represent two per cent of the total remote payment value (in comparison to 0.3 per cent of the total remote payment value in 2013).

Online transfers include online e-wallet and electronic transactions initiated through online services and providers, which are either pre-funded or linked to deposit accounts at financial institutions (e.g., *Interac* e-Transfer and PayPal). Overall, in 2018 there were a total of 397 million transactions worth \$135 billion. Even though online transfers account for only two per cent of the total volume of payments in Canada, they are the fastest growing payment segment. Online transfers grew by an impressive 52 per cent and 44 per cent (in volume and value) in 2018.

Interac e-Transfer dominates the online transfer payment segment in Canada. In 2018, about half of all Canadians made at least one *Interac* e-Transfer in a typical month.⁶⁹ New *Interac* e-Transfer features started to gain traction recently as well, including over four million Canadians registered for Autodeposit and about a million Canadians using the Request Money feature.⁷⁰ The survey data indicate *Interac* e-Transfer transactions are mostly used for P2P payments, as seven in ten Canadians who have sent at least one *Interac* e-Transfer have used this payment method to pay their family members and friends, while about 48 per cent have used the service to pay a bill or to pay a business.⁷¹ While, *Interac* e-Transfer is one of the most common ways to send a payment to another person in Canada, sending payments to others internationally can involve much more complicated transactions.

About one in 10 Canadians regularly make payments to someone in another country.⁷² Of the Canadians that send payments abroad, they make an average of four payments per month worth a total of about \$1,000.⁷³ The data includes the use of international payments such as wire payments, PayPal, and emerging services like Transferwise. Featured Analysis C discusses the challenges Canadians face with international payments today.

REMOTE CREDIT CARD TRANSACTIONS

Credit cards are predominantly used in POS environments. However, about 10 per cent of all credit card transactions are used to pay bills including memberships, subscriptions, insurance, and utilities through mostly pre-authorized payment arrangements established through billers. The vast majority of remote credit card transactions are inferred to be consumer initiated, as most commercial credit card transactions would fall under the definition of POS (e.g., using online environments to book and pay for travel, transit, supplies and materials). The market research confirms that remote credit card transaction use has been showing healthy growth. Cardholders are using credit cards to pay for a number of their bills, making up 15 per cent of the total bills paid in Canada in 2018. Much of this segment growth is coming at the expense of cheques and EFT.⁷⁴

69 Available at: https://www.payments.ca/sites/default/files/report_costs_of_payments_processing_eng_final_2018.pdf.

70 The Autodeposit feature allows customers to have money sent via *Interac* e-Transfer automatically deposited directly into their bank account, without having to answer a security question. See: <https://www.interac.ca/en/interac-e-transfer-consumer.html>

Easily request money you are owed with the *Interac* e-Transfer Request Money feature. When you send a request for money, the recipient is notified instantly and can accept the request. If accepted, the requested amount will be automatically deposited into your account and you will be notified when funds are available. See: <https://www.interac.ca/en/interac-e-transfer-consumer.html>

Please see: <https://newsroom.interac.ca/use-of-interac-e-transfer-service-surges-in-2018/>

71 Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

72 Ibid.

73 Ibid.

74 Ipsos, 2017 Personal Cardholder Syndicated Study, 2018. Note: this references proprietary market research acquired by Payments Canada, please see Appendix II A for survey methodology.

THE CHALLENGES OF INTERNATIONAL PAYMENTS ARE AN OPPORTUNITY FOR DIGITAL CURRENCIES⁷⁵

Authors: Segun Bewaji, Payments Canada and Zheren Li, Carleton University

The views expressed in this article are the personal views of the authors and do not represent the views of Payments Canada.

WHAT IS AN INTERNATIONAL PAYMENT?

In total, there were an estimated \$23.7 trillion worth of international payments in 2018 worldwide.⁷⁶ International payments are those transactions that involve moving funds from payors in one country to payees in another. International payments have grown over the past decade, due mostly to the growth in international e-commerce, where buyers are increasingly purchasing goods and services from sellers in other countries.⁷⁷

INTERNATIONAL PAYMENTS ARE COMPLEX AND RISKY

In most cases, international payments require a series of intermediary transactions to complete the movement of funds between the countries and banks involved to the intended recipient. This process typically involves settlement between correspondent banks, which in its simplest form, involves two banks with a direct bilateral correspondent relationship (one in each country involved). In cases where banks may not have a direct relationship, the international payment could involve multiple banks acting as intermediaries which can increase the number of parties involved. This often increases the complexity and cost, while decreasing the speed at which payments can move across borders (**Figure 1**).

These arrangements also expose the financial institutions involved to foreign exchange risk (FX), counterparty risks, and regulatory risks. High-value international transactions through correspondent banking are exposed to settlement risk because financial institutions often lack real-time visibility into the settlement processes involved once a payment moves to another bank in another country. More importantly, these risks can impact the end-user experience when trying to send payments to other countries. Additionally, there is the issue of a lack of harmonization in ISO 20022 implementation and operating hours in the various real time gross settlement systems operated by central banks and financial market infrastructure operators globally. These risks can impact the end-user experience in trying to pay recipients in other

Featured Analysis C continues...

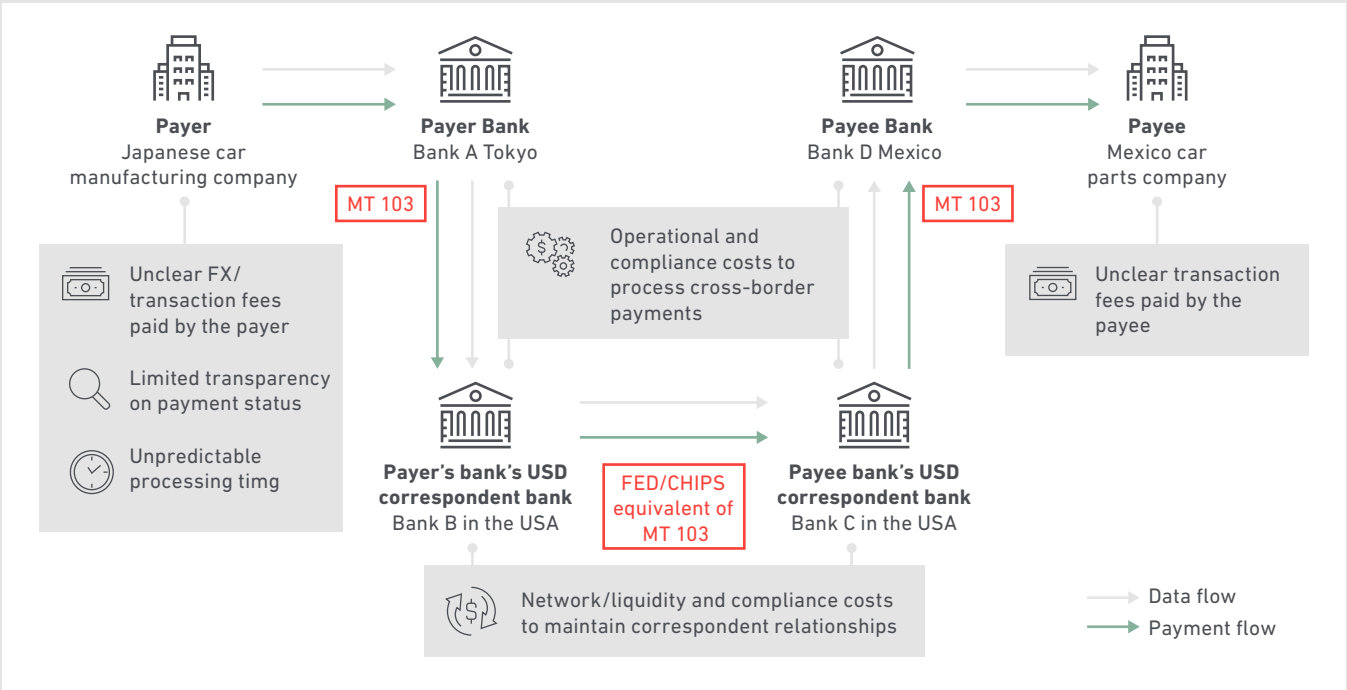
⁷⁵ It should be noted that the term "digital currency" is used here in its broadest sense, and includes cryptocurrencies such as Bitcoin, funds in e-wallets, central bank digital currencies and virtual currencies. Virtual currencies are used primarily for online entertainment in virtual worlds and are not intended for use in "real life," or expenditure on real assets. They can be considered as assets depending on the underlying economics of the intersection between the virtual worlds they are used in and the real world. For example, online video game World of Warcraft (WoW) tokens currently trade at 177,828 gold per US dollar (<https://wowtokenprices.com/extended-history>).

⁷⁶ Value of cross-border payments worldwide from 2016 to 2022, by type in trillion U.S. dollars. Available from: <https://www.statista.com/statistics/609723/value-of-cross-border-payments-by-type/> Most of these cross-border transactions are corporate payments.

⁷⁷ Bank for International Settlement (2018) Cross-border retail payments. Available from: <https://www.bis.org/cpmi/publ/d173.pdf>

countries. Indeed, from a consumer standpoint, cross-border payments also present a number of challenges including fees and remittance information visibility. It is also difficult for consumers to see what stage of the process the payment is in and when the funds transfer is complete.

Figure 1: Correspondent Banking Payment Flow Chart



Source: SWIFT Institute (2018). The Future of Correspondent Banking⁷⁸

While the demand for international payments continues to grow, international payments remain slow, expensive, and lacking in transparency relative to many domestic payments. As such, there is an opportunity to improve the facilitation of international payments moving into and out of Canada.

The opportunity has moved some financial institutions, central banks, and technology providers to start to explore alternatives. An area of growing interest in solving the issues surrounding international payments is the use of Distributed Ledger Technology (DLT) and virtual currencies, including Bitcoin and the Central Bank Digital Currency digital currency. While these products offer clear advantages over today’s mainstream international payments, many Canadians remain skeptical and reluctant to adopt. To this end Mark Carney, former Governor of the Bank of Canada and current Governor of the Bank of England, stated during his June 2019 Mansion House speech, that the Bank of England approached the Facebook-led Libra digital currency as an innovation that could “substantially improve financial inclusion and dramatically lower the cost of domestic and cross-border payments” and has an “open mind but not an open door” towards it.⁷⁹

Similarly, incumbents in the industry are also innovating in this space, with SWIFT leading the charge to improve cross-border payments infrastructures. For example, the SWIFT gpi was launched in 2017, and aims to solve the inefficiencies in existing messaging and processing systems between FIs by standardizing the messaging format used in cross-border payments. The result is that over 95 per cent of payments through SWIFT can be processed within 24 hours of the transaction taking place. Currently, there are over 1100 financial institutions around the world supporting the flow of payment messages

Featured Analysis C continues...

⁷⁸ SWIFT Institute (2018). The Future of Correspondent Banking Cross Border Payments. Available from: https://swiftinstitute.org/wp-content/uploads/2018/10/SIWP-2017-001-The-Future-of-Correspondent-Banking_FINALv2.pdf

⁷⁹ Enable, empower, ensure: a new finance for the new economy – speech by Mark Carney <https://www.bankofengland.co.uk/speech/2019/mark-carney-speech-at-the-mansion-house-bankers-and-merchants-dinner>

through SWIFT gpi, with over \$300 billion USD sent daily over the platform. While SWIFT gpi is a significant improvement to the cross-border payments infrastructure, SWIFT does not transfer money across jurisdictions – only the messages – and fund transfers still require settlement via correspondent banking.

DISTRIBUTED LEDGER TECHNOLOGY AND INTERNATIONAL PAYMENTS

In the international payments context, the distributed ledger model is essentially a decentralized database that is consensually shared and synchronized across a network of banks from different countries. While transactions made on the ledger are done using virtual currency (a.k.a., cryptocurrency), each bank has a copy of the ledger containing the necessary transaction history and information to facilitate international transfers.

Experimenting with this model, commercial banks have leveraged virtual currencies based on fiat currencies (backed by central banks) to perform international transaction settlement. Two examples of these are the Utility Settlement Coin (USC), and the JP Morgan Coin (JPM Coin). International settlement using either USC or JPM coin leverages the DLT to enable faster and more secure international payments and straight-through-processing to improve transparency.

Other examples include Ripple (XRP) and Stellar (XLM). Ripple enables multinational corporations to settle international payments by transferring XRP through the Ripple network. In contrast, Stellar enables individuals, end-users, to trade money directly with each other across jurisdictions, using entrusted intermediaries to handle FX and funds transfer. Both Ripple and Stellar have proven to be faster and more efficient international payments compared to correspondent banking.

Other approaches involve central bank digital currency (CBDC). CBDC is a digital form of fiat money which is a currency established as money by law and issued by the central bank.⁸⁰ The implementation of CBDC in a closed system of trusted participants can minimize DLT risk (e.g., cybersecurity risks) but still offer the same benefits as other approaches to DLT.

A prime example of CBDC is in development in Canada, called Project Jasper-Ubin. This project is being pursued jointly with Payments Canada, the Bank of Canada, the Bank of England, and the Monetary Authority of Singapore.⁸¹ Project Jasper-Ubin is exploring the use of DLT for international payments and will settle using CBDC. The approach will involve a closed system requiring permissions for access and will eliminate counterparty credit risk and settlement risk by not requiring participants to hold funds.⁸²

CANADIANS' PERCEPTION ON CRYPTOCURRENCY AS A MEDIUM FOR INTERNATIONAL PAYMENT

Given the advantages that DLT could offer to international settlement, how do Canadians feel about cryptocurrency? While there has been significant growth in the use of cryptocurrency over the years, the consumer usage of cryptocurrency is still in its infancy. Payments Canada and CorbinPartners' *Bitcoin Sentiment Tracker*, provide an instrument to measure Canadian consumer perceptions and attitudes towards Bitcoin.⁸³ While the tracker shows that almost every Canadian is aware of Bitcoin, it also shows that many Canadians appreciate the potential for virtual currencies to serve their needs for international payments.

One-third of Bitcoin users identified international payments as one of the main advantages of Bitcoin over traditional payments. The data suggest that as familiarity and comfort levels increase in the use of virtual currencies, the utility for using DLT for international payments will continue to grow.

⁸⁰ Bank of Canada (2018). Central Bank Digital Currency and Monetary Policy. Available from: <https://www.bankofcanada.ca/wp-content/uploads/2018/07/swp2018-36.pdf>

⁸¹ Enabling Cross-Border High Value Transfer Using Distributed Ledger Technologies. Available from: https://www.accenture.com/_acnmedia/PDF-99/Accenture-Cross-Border-Distributed-Ledger-Technologies.pdf

⁸² Permission-based means transacting parties only transact with parties that are on the same ledger. Parties that are not on the same ledger would transact by either intermediaries or access to a central bank liability.

⁸³ Bitcoin Sentiment Tracker by CorbinPartners and Payments Canada, available from: <https://www.payments.ca/sites/default/files/bitcoin-sentiment-tracker-final.pdf>

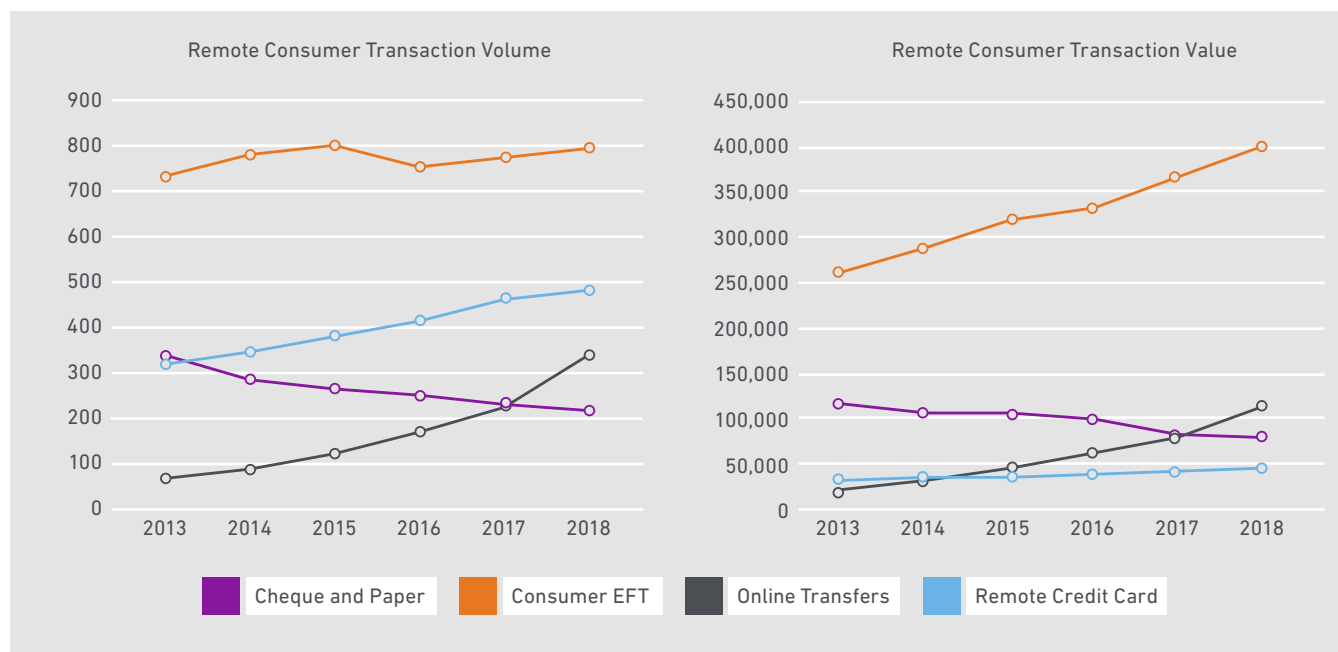
REMOTE CONSUMER TRANSACTIONS

In 2018, there were 1.7 billion consumer initiated remote transactions, worth \$635 billion. Overall, consumer EFT makes up 44 per cent of the total volume and 63 per cent of the total value of remote consumer transactions. Consumers use EFT transactions when they use online banking to pay for their utilities or to transfer funds to accounts held at other institutions. EFT is also used when consumers set up pre-authorized debits (using their deposit accounts) to pay for mortgages or auto loans.

Online transfers continue to find strong growth with consumers in paying both people and businesses. Consumer use of online transfers has surpassed consumer cheque use. In 2018, online transfers accounted for about 20 per cent of the total volume of consumer remote transactions, while consumer cheque volume dropped to only 11 per cent (compared to 23 per cent in 2013). This translates into 121 million fewer consumer initiated cheques than in 2013.

Despite the gains made in electronic consumer payments, about a third of Canadians still wrote at least one cheque in 2018.⁸⁴ Canadians who used cheques regularly wrote an average of three cheques per month, worth of \$1,385.⁸⁵ Cheques are most frequently used to pay rent, donations, and bills, and to provide gifts.⁸⁶

Figure 10: Consumer Remote Transaction Volume and Value



Heavy cheque users are mostly older Canadians who live in rural areas. The majority of the heavy cheque usage is concentrated in Quebec and Saskatchewan. The number one reason for using cheques in these provinces was that “no other payment option was given”. For many cheque users, cheque payments are made from necessity rather than preference.

⁸⁴ Thirty-three per cent of our 2018 survey respondents indicated they used a cheque or money order to make a payment “in the last month”.

⁸⁵ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

⁸⁶ Ibid.

CHEQUES ARE STILL PAYING THE RENT

A key use case for continued cheque use for Canadians is paying rent. About 20 per cent of cheque or money order users pay their rent using cheques.⁸⁷ The data also suggest that 29 per cent are not being provided an alternative, or feel that they have to pay their rent using cheques.⁸⁸

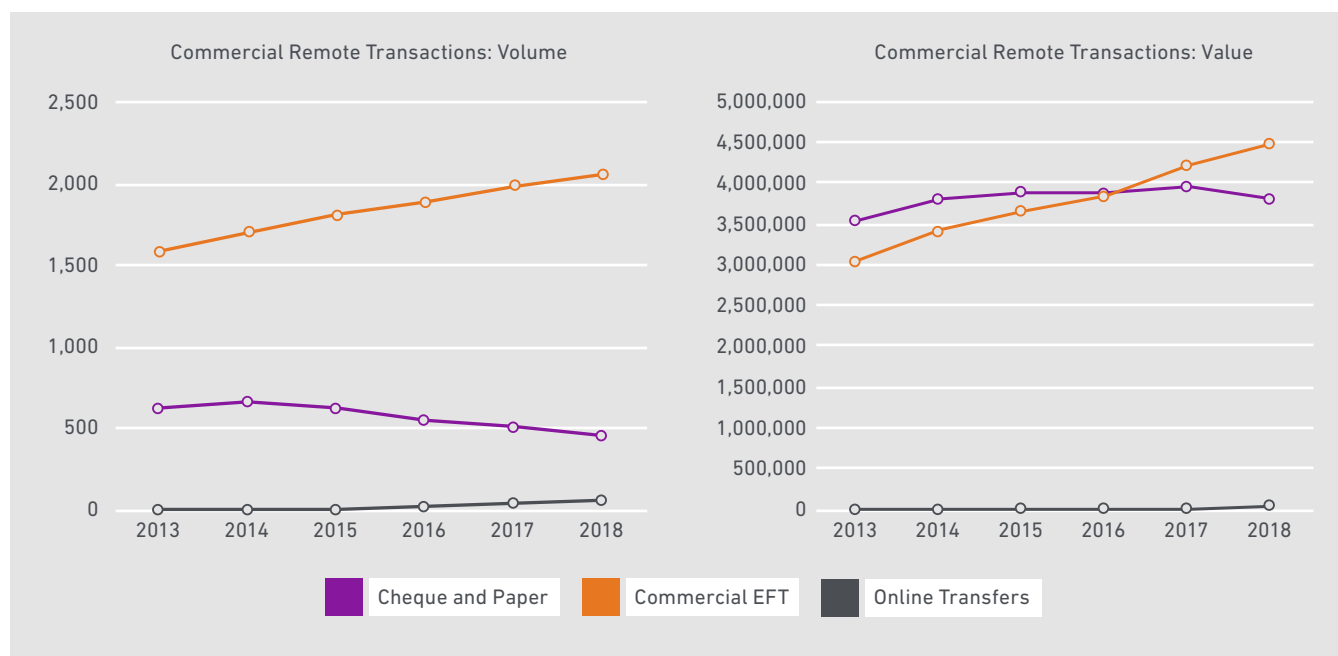
When looking across the provinces, Quebec has the highest cheque usage for rent, followed by Ontario, and British Columbia.⁸⁹ Twenty-six per cent of people from Quebec who use cheques to pay for rent indicated that there are no other payment options given to them.⁹⁰ Innovation is starting to catch up though, with applications and services such as RentMoola and RentPayment providing services to accept payments electronically.

REMOTE COMMERCIAL TRANSACTIONS

EFT is the main pillar of remote commercial payments, as corporate entities, financial institutions, businesses and government agencies rely on EFT transactions for many of their payments. Commercial EFT includes payroll transactions and many B2B payments for inventory, supplies, and materials. In 2018, there were more than 2.6 billion commercial remote transactions identified, worth about \$8.3 trillion. EFT payments have grown to account for almost 80 per cent of the total commercial remote transaction volume. On the value side, EFT moves about 54 per cent of the total remote commercial transaction value.

Cheques fall closely behind EFT in remote transaction value, at about 46 per cent of the total value. About 460 million commercial cheques were written in 2018, worth approximately \$3.8 trillion. Despite the on-going cheque decline, cheques remain an important payment method for certain commercial transactions, including B2B payments and real estate transactions.

Figure 11: Commercial Remote Transactions Volume and Value⁹¹



⁸⁷ Leger/Payments Canada. 2018/2019 Canadian Consumer Payments and Transactions Survey.

⁸⁸ Ibid.

⁸⁹ Ibid.

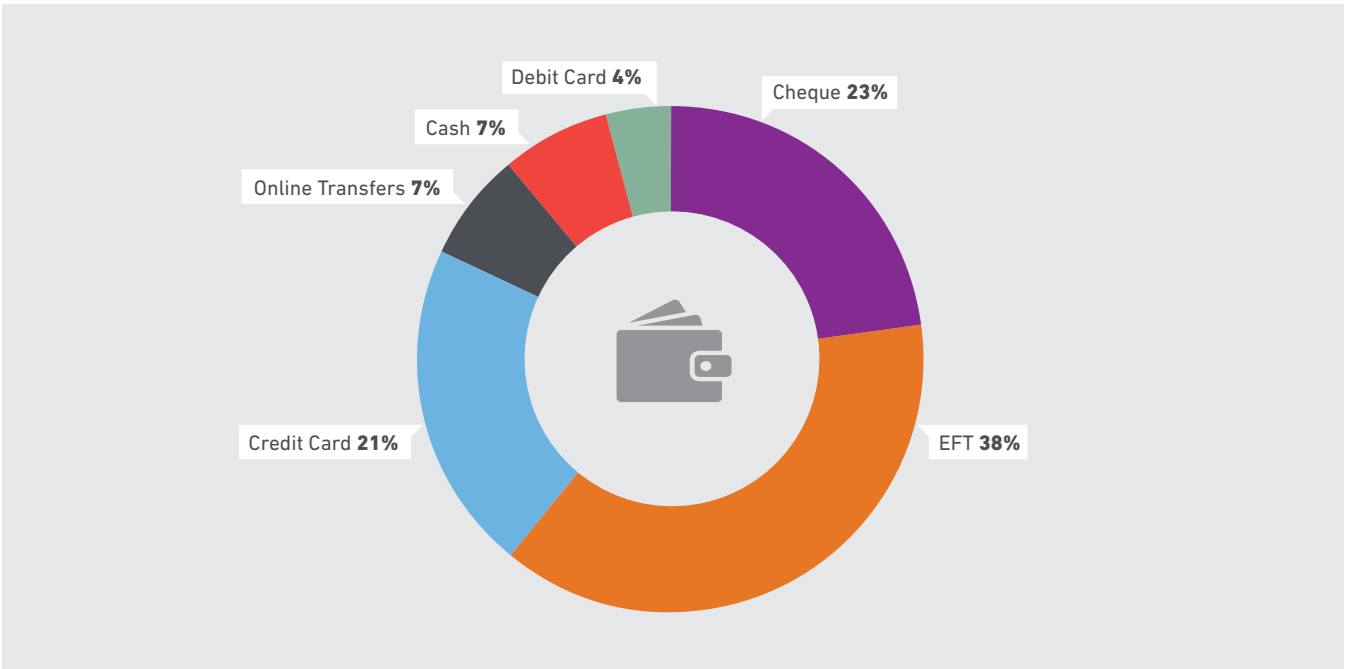
⁹⁰ Ibid.

⁹¹ Commercial use of credit cards and online transfers is significant but is well below the volumes and values of EFT and cheques, hence these segments are not charted below in **Figure 11**. These segments are covered below in the Business Payments Section as part of our analysis on Canadian businesses transactions.

C. Business Payments

The analysis of commercial payments, above, addresses all non-consumer payments, including those made by local, city, provincial, and federal levels of government. Government payments add large volumes of transactions (for example, the collection of taxes and fees and disbursing benefits and program payments). In this section, only business payments are discussed in order to focus on this distinct segment of commercial payment users. **Figure 12** provides an overview of the proportion of the total value of business expenditures made by each payment method.

Figure 12: 2018 Business Payment Method Mix (as a per cent of total expenditures)⁹²



The top three methods of payment used by Canadian businesses include EFT, cheques and credit cards. **Table 2**, below, lists the main use cases for each of the top three business payment methods. The table includes a breakdown based on the business size (SME and large corporates).

EFT maintains the lion’s share of business payment value in 2018. Businesses indicated they used EFT mostly for payroll and payments to the government. EFT was also commonly used to pay bills such as utilities and for business services. EFT use was boosted in 2018 with the introduction of enhancements to AFT, to make them more useful to businesses. AFT payments now enable Canadian businesses to move funds faster, make more time-sensitive same-day payments, with more convenience and choice.⁹³

Cheques are mostly used by large corporates to pay for rent and government payments, while SMEs are more likely to use cheques to pay for professional services. In terms of credit card use cases, both SMEs and large corporates mostly use credit cards for travel and entertainment expenses.

⁹² RFI Group’s Canada SME Banking and Payments Council and Canada Commercial Banking and Payments Council (RFI Group 2018). Includes the payment method usage by about 2,000 Canadian businesses (both small to medium sized businesses and corporates).

⁹³ To read more about Payments Canada’s introduction of a third daily interbank period for financial institutions, see: <https://www.payments.ca/about-us/news/payments-industry-delivers-next-milestone-modernization-journey-faster-more-convenient>

Overall, Canadian businesses are becoming more interested in processing payments more easily and efficiently, and automating reconciliation. This is evidenced by the growing number of digital payment service providers offering payment services to Canadian businesses. Online transfers are also being adopted by more businesses, with businesses sending over \$465 million using the *Interac* e-Transfer Bulk Disbursement feature which allows businesses to send bulk payments.⁹⁴ In 2018, business use of online transfers increased to seven per cent of all business expenditures. Service provider efforts to target business payment use cases are seem to be taking root. Businesses are also increasingly accepting online transfers.⁹⁵

Table 2: Most Common Use Cases for Business Payment Methods⁹⁶

Payment Method	Small and Medium Enterprises	Large or Corporate Enterprises
EFT	Payroll Government payments/tax Utilities/telecoms	Payroll Government payments/tax Professional services
Credit Card	Travel related expenses Entertainment Courier/logistics	Travel related expenses Entertainment Office supplies
Cheques	Professional services Payroll/rent Government payments/tax	Rent Government payments/tax Professional services

94 Please see: <https://newsroom.interac.ca/use-of-interac-e-transfer-service-surges-in-2018/>

95 We also see a growing number of businesses accepting new methods of payment. According to RFI Group’s surveys, an estimated 20 per cent of Canadian merchants currently accept Alipay and/or WeChat Pay. The highest acceptance rate was found to be in Quebec (at 34 per cent).
RFI Group’s Canada Merchant Acquiring Council (RFI Group 2018).

96 RFI Group’s Canada SME Banking and Payments Council and Canada Commercial Banking and Payments Council (RFI Group 2018).

APPENDIX I:

Detailed Payment Segment Charts

Figure A1: Total Annual CPMT Transactions (Volume and Value)

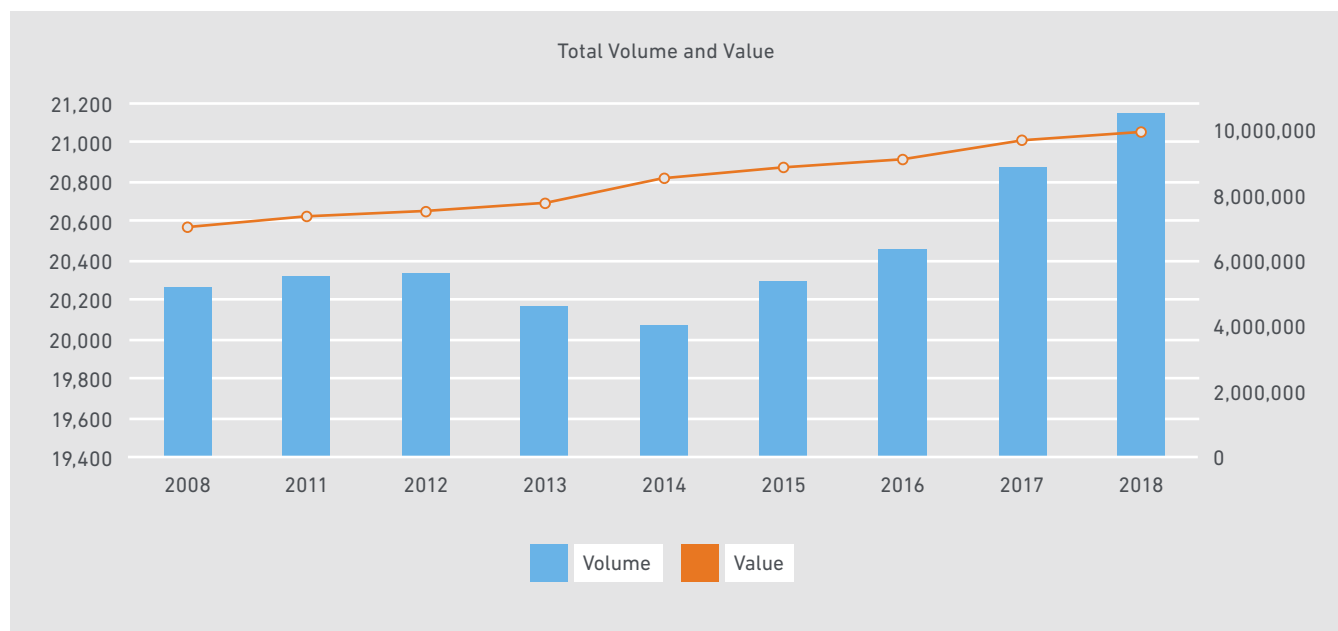


Figure A2: All Payment Method Annual Totals

Payment Method	Volume (in millions of transactions)				Value (in millions of dollars)			
	2008	2012	2017	2018	2008	2012	2017	2018
Cheques and paper	1,351	1,009	734	667	3,996,090	3,592,722	4,030,697	3,891,136
Debit	3,704	4,363	5,794	6,050	168,579	192,125	246,499	255,600
ABM	880	695	532	499	96,436	80,758	70,001	68,217
Prepaid Cards	118	158	278	304	9,784	10,798	16,495	18,155
EFT	1,824	2,219	2,742	2,846	2,284,530	3,049,737	4,583,973	4,889,627
Credit Card	2,702	3,762	5,609	5,907	314,123	422,339	527,962	551,497
Online Transfers	11	41	261	397	3,266	14,295	93,513	134,770
Cash	9,663	8,070	4,909	4,467	179,099	145,017	99,028	92,096
TOTALS	20,252	20,318	20,859	21,138	7,051,907	7,507,791	9,668,169	9,901,098

Figure A3: Average Transaction Size

Payment Method	2013	2017	2018	% Change
Cheques and paper	\$3,737	\$5,491	\$5,834	56%
Debit	\$44	\$43	\$42	-4%
ABM	\$117	\$132	\$137	17%
Prepaid Cards	\$60	\$59	\$60	-0.3%
EFT	\$1,439	\$1,672	\$1,718	19%
Credit Card	\$100	\$94	\$93	-7%
Online Transfers	\$351	\$358	\$340	-3%
Cash	\$18	\$20	\$21	-13%
TOTAL	\$384	\$464	\$468	22%

Figure A4: All Payment Method Average Annual Growth Volume (10, 5 and 1 year CAGR)

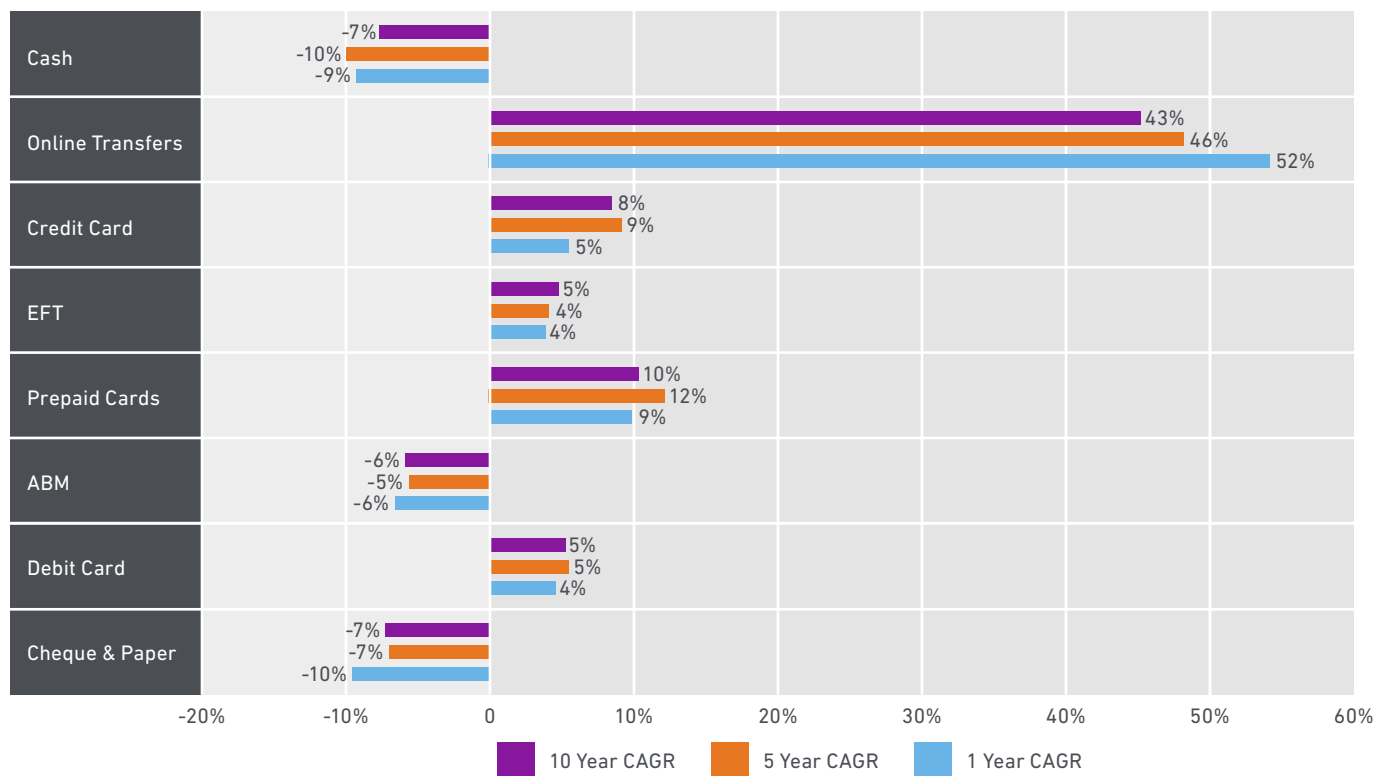
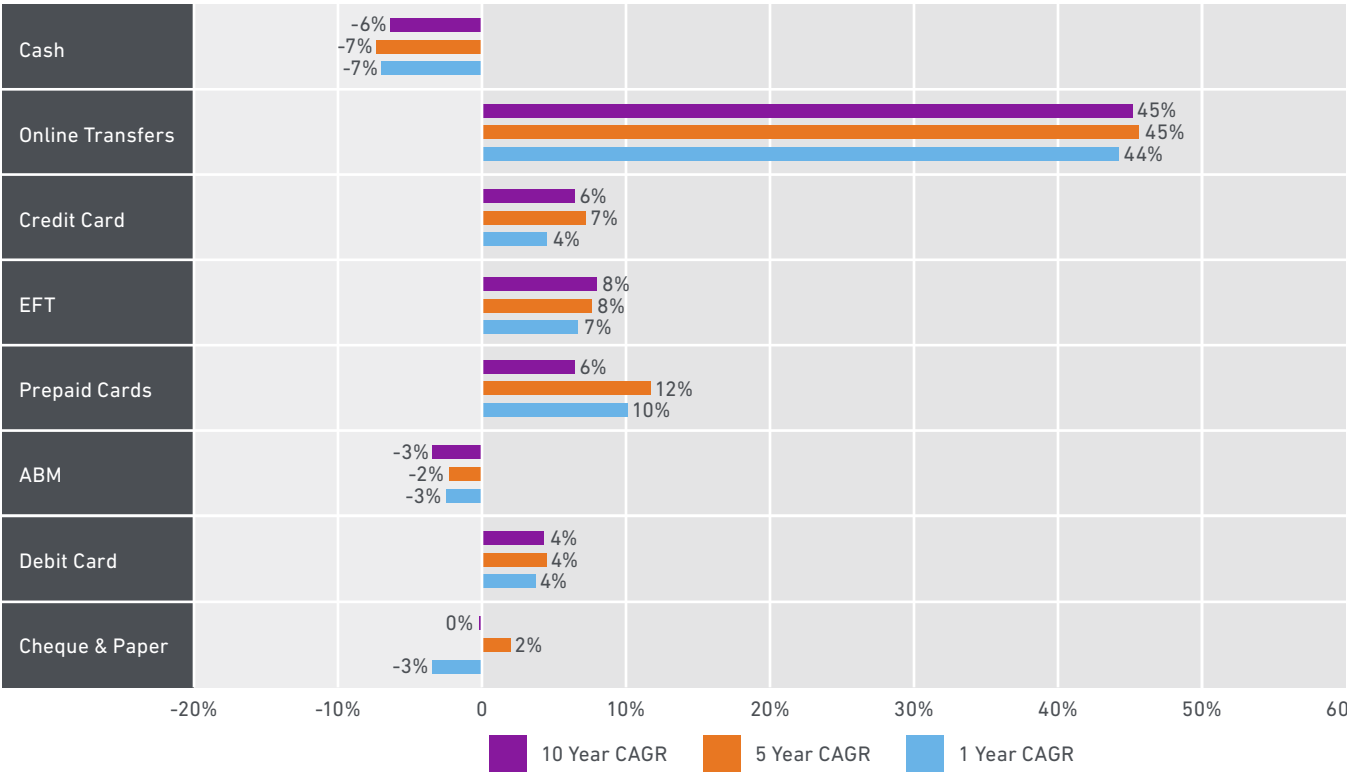


Figure A5: Value (10, 5 and 1 year CAGR)



APPENDIX II:

Methodology, definitions and segment descriptions

A. Methodology

Notes on methodology

The data presented are a combination of Payments Canada systems data, payment service providers and scheme operator data and estimates based on market research and in consultation with industry experts.

Payment service providers contributed either by sharing their internal research and data or by providing expertise that enhanced the data set's accuracy. As was assured during the data collection, Payments Canada has made every effort to keep participant data non-discernable, where asked to do so.

This paper leverages the full data set gathered from past efforts and contains appropriate updates in methodology, data and findings. As such, this paper represents a full update of the previously published data points (including those provided in past papers) and should be viewed as essentially replacing the previous data sets.

Survey market research details and methodology

1. Ipsos PCS

The Personal Cardholder Study (PCS) is completed through an online sample of Canadian cardholders, using Ipsos' internet panel of respondents. For over 20 years, the PCS has provided an ongoing quarterly survey of cardholders and non-cardholders, covering a variety of credit card metrics and payment trends. The total sample size for the 2017 survey was 12,008 respondents.

2. RFi Group business surveys

The RFi Group conducts separate surveys on larger corporate enterprises and small to medium sized enterprises (SME). The corporate survey was in field in April and November 2018 with a total of 771 Canadian commercial banking customers being interviewed online. Basic quotas were applied to the sample to ensure that the data were representative of the Canadian commercial population. All respondents had decision-making powers within businesses operating in Canada with global annual revenue of \$10 million to \$550 million.

RFi Group's SME survey was in field in May and November 2018 with a total of 1,069 individuals interviewed online. Basic quotas were applied to the sample to ensure that the data is representative of the Canadian SME market. All respondents had decision making powers within an SME operating in Canada with global annual revenue of less than \$10 million.

3. TSI Consumer Survey

Technology Strategies International Inc. (TSI) provides in-depth assessments of consumer payments in Canada, drawing upon a wide range of information resources including desk research, executive interviews and discussions, consumer research and analysis – compiled into an annual report. In 2019, the 2019 TSI consumer market research data were also analyzed for additional insights. The 2019 consumer survey included a sample size of 2,006.

4. Leger Consumer Survey

Leger is a full service market research consultancy experienced at providing both quantitative and qualitative research. Leger is a pioneer and leader in web-based research. They have their own proprietary online panel of over 475,000 Canadians. In 2018, Leger acquired an additional panel, which includes an additional one million millennials. As of 2018, Leger provides Payments Canada with a customized consumer payments survey focused on Canadians' usage of different payment methods in both the POS and remote transactions environment. In this report, we include a sample size of 7,500 Canadians. The surveys were field in late 2018 and early 2019.

B. Definitions and segment descriptions

ABM payments

ABM data is derived from data found in published proprietary reports and validated with published payment network.

CAGR

Compound annual growth rate (CAGR) calculates the annual average growth over multiple years, while taking into account the effects of average compounding growth experienced in each year.

Cash

Total cash was estimated based upon data from Bank of Canada survey research data (the data were also leveraged for their 2013 Methods-of-Payment Survey).⁹⁷ Estimates from the data establish the mean number of cash transactions per Canadian per day was (.65) and the mean cash expenditure per transaction was \$11.49. We used these numbers to extrapolate to the larger Canadian population to formulate cash payment estimates and adjusted based on the market research suggestion of cash decline in 2014, 2015, 2016 and 2017. These numbers are retroactively updated every four years as we get new research from the Bank of Canada that doesn't require estimation of mean cash transactions and expenditures.

Cheque imaging technology

Several Canadian financial institutions offer apps for remote deposit capture, through the digital representation of the front and back of a cheque.

Commercial payments

Commercial payments include transactions that originate from Canadian organizations, businesses, and governments.

Consumer payments

Transactions that originate from Canadian households and individuals for paying bills, managing accounts at financial institutions, and payments for goods and services.

Credit card

Credit card data are a combination of consumer and business credit and charge card payments found in proprietary published reports.⁹⁸ Charge cards differ from credit cards primarily in their application of interest. Credit cards charge interest at an annual percentage rate. Charge cards apply full interest charges after a defined period (typically 30 days) so users are more inclined to pay off balances each month.

Debit payments

Debit payments include Payments Canada POS debit and online debit transaction data, Interac debit card data and data provided by participants.

EFT

EFT was calculated using a combination of AFT (debits and credits), electronic remittances and electronic data interchange (EDI) transactions.

⁹⁷ 2013 Methods of Payment Survey Results, Bank of Canada, April 2014.

⁹⁸ Euromonitor International (2018), Passport: Financial Cards and Payments in Canada 2019 Edition, and TSI (2018), Canadian Payments Forecast 2018.

ISO 20022

ISO 20022 is an international standard designed to simplify global business communication. The standard enables efficient payments clearing and settlement among financial institutions globally through the use of a common set of messages and language. It is an open standard developed by ISO (International Organization for Standardization).

LVTs

Large Value Transfer System (LVTs) payments were excluded from the analysis because the report is focused on more common payments made by consumers and businesses.

Online transfers

Online transfers include online e-wallet and electronic person-to-person (P2P) transactions initiated through online services and providers that are prepaid or linked to deposit accounts at financial institutions (e.g., PayPal). Includes data and estimates for online and mobile environments used to make remote electronic person-to-person payments and payments to merchants, excluding transactions based on credit and debit cards, which are counted in the credit card and debit card categories.

On-us

Refers to transactions drawing upon direct deposit accounts (e.g., bank checking accounts or business accounts) where both the payor and payee reside at the same financial institution. A variety of payment types, normally associated with Payments Canada cleared payments, are impacted by on-us items, including cheques, debit and EFT. On-us payments do not result in a Payments Canada clearing entry (and do not appear in Payments Canada system data). On-us payments data must be determined from sources other than Payments Canada. On-us amounts were derived from participant data and estimates. The analysis determined on-us payments to amount to approximately 20 per cent more transactions than can be found in Payments Canada data. On-us amounts differ by payment type, such as cheques ~ (21 per cent), debit ~ (25 per cent), EFT (20 per cent), etc.

Paper/cheques

Based on Payments Canada ACSS data for cheque and paper items, including paper remittances.

Paytechs

Paytechs are organizations that provide technology to enable or support electronic payment transactions. This also includes the technology for the acquisition, management, analysis, and use of payments-related data.

Prepaid

Credit card company and store-branded prepaid product data (both open- and closed-loop) are based on proprietary publication data. We also include virtual prepaid products, such that might be purchased through mobile device application stores, such as Apple and Android.

Point-of-Sale (POS)

Point-of-sale or point-of-service transactions include both physical and virtual merchant locations, including online and in-app purchases.

Remote environment

Remote transactions include all transactions that are not made at physical payee locations, virtual payee provided apps or store fronts (a.k.a. the POS explained above).