



Canadian Payments Forecast, 2020



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Introduction



Objectives

Canadian Payments Forecast, 2020, is an in-depth assessment of the how the consumer payments landscape in Canada is likely to be transformed over the next five years as a result of the dramatic disruption to economic activity caused by the COVID-19 pandemic.

Subscribers will be in a unique position to make well-founded, research-based, strategic decisions about how best to steer their business in the turbulence that is affecting the Canadian payments industry. The primary information objectives of the 2020 study were to:

- Undertake an in-depth analysis of how the economy, personal consumption expenditure and retail sales are expected to evolve over the next five years in the light of the COVID-19 pandemic
- Provide a comprehensive review of consumer payments in Canada and how the COVID-19 pandemic is expected to impact on consumer payments in Canada across all major payment modalities
- Provide quantitative forecasts of payments (by channel), cards and terminals.

This study provides essential information for organizations interested in gaining an understanding of, and tracking developments in, the Canadian payments marketplace. This is particularly important in the current economic context where the disruption to economic activity is likely to have a profound impact on consumer payments in the future.

Methodology

In assembling the information for this study, TSI drew on a wide range of information resources, including the following:

- **Desk Research:** TSI consultants carried out in-depth desk research into the payments industry, both in Canada and internationally. There is vast literature on payments available on the internet. Our skill lies in identifying credible sources, sifting through the information to extract the most valuable elements, and verifying facts that appear to be suspect, or that do not appear to be supported by any substantiated argument. In addition, TSI has, over the past twenty years, built up a comprehensive database on the payments industry in Canada based on past studies conducted in this area. Our database provides a rich source of information in this analysis, and in particular in providing the baselines for establishing the most important trends in the Canadian market.
- **Executive Interviews and Discussions:** While desk research can provide an important backdrop and some basic data for a project such as this, it was important for us to gain in-depth insights into the market directly from key players in the industry, both within Canada and globally. This was particularly important this year as we navigated through the COVID-19 pandemic. We did this through interviews, discussions, and participation in major conferences and seminars (more recently mostly online seminars) relevant to the Canadian payment marketplace.
- **Consumer Research:** This is the seventh year in which we have used data from our Canadian Consumer Payments Survey (CCPS) market research to inform our analysis and projections in Canadian Payments Forecast. While in the past we have found this to be an important source of supplementary information to obtain granularity on developments in the market especially in areas relating to the adoption of new technologies, it was particularly important this year since it allowed us to get feedback directly from consumers on the impact that the COVID-19 pandemic has had on their economic activity and payments behaviour.
- **Analysis:** The information obtained through primary and secondary research was collated and analysed within TSI's strategic market analysis framework. This report embodies the analysis and findings of the research.

Forecasts

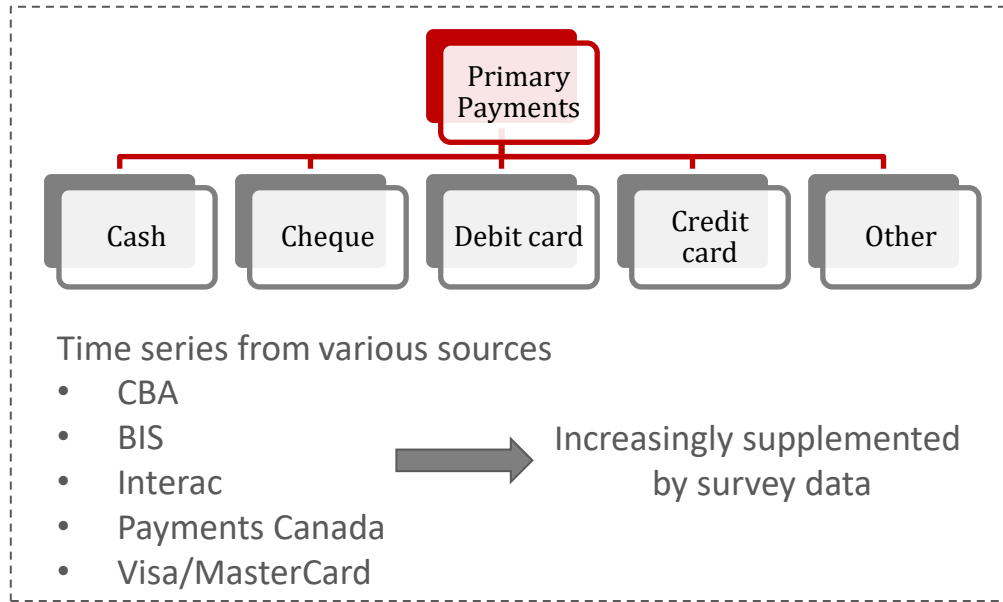
An important aspect of this study is to provide subscribers with a well-founded look ahead to the prospects for the payments industry in Canada. As a result of the dramatic changes to the economy and consumer behaviour that have resulted from the COVID-19 pandemic, we have had to develop new approaches and models for our economic and payments forecasts. Publication of the report was also delayed so that we could get a better idea of how the pandemic would affect the economy in the coming months and years. At the time of publication, there was still much uncertainty about the speed with which the global and Canadian economies would recover. However, we have consulted widely in developing our new models and resultant forecasts and believe that we have achieved a fair balance between timeliness of information and forecast plausibility.

Forecasts in this report cover a **five-year time frame**, with the **base year of 2019**. Where we have been unable to source key primary payment statistics for 2019 due, for example, to statistical lag, we have provided our own estimates. Projections are prepared for 2020 through to the end of 2024.

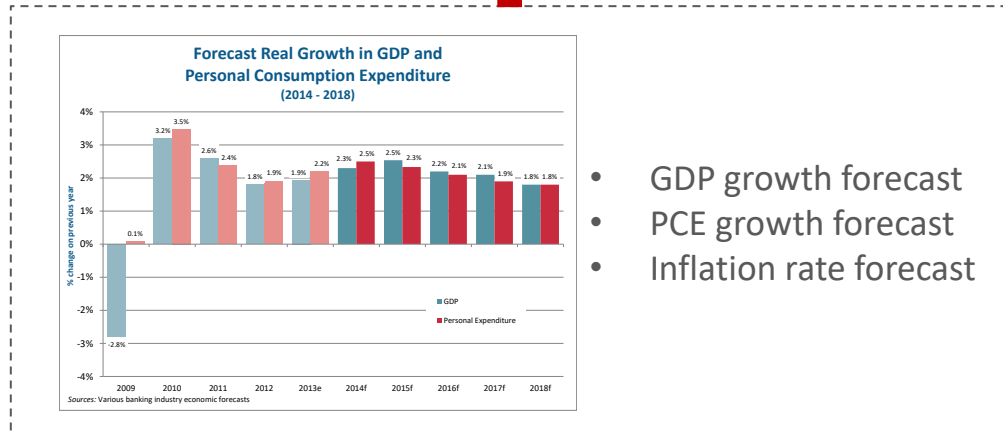
Forecasting, by its very nature, cannot be an exact science. The forecasts presented in this report represent what we believe to be the best view available of prospects for Canadian payments. However, the global economy is experiencing unprecedented turbulence at present and the cone of uncertainty around these forecasts is therefore higher than normal. While we believe that the information contained in this document to be as accurate as is possible for a review of this nature, TSI accepts no liability for any errors, inaccuracies or omissions.

Our approach to forecasting is shown on the next chart.

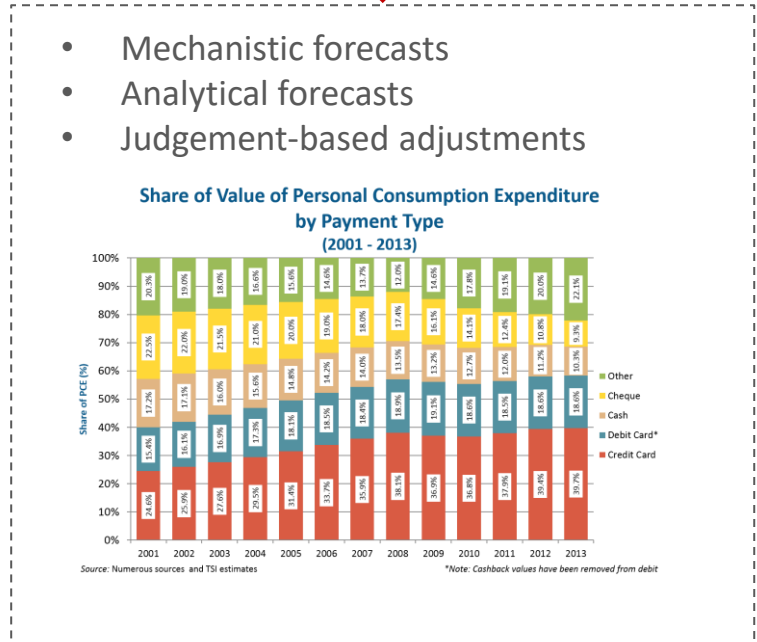
Canadian Payments Forecast: Forecasting Approach



- Forecasting**
- Time series analysis (turning points, trend, seasonal and cyclical variations)
 - Survey data analysis
 - Diffusion models and substitution models
 - Causal models
 - Multiple regression
 - Judgement

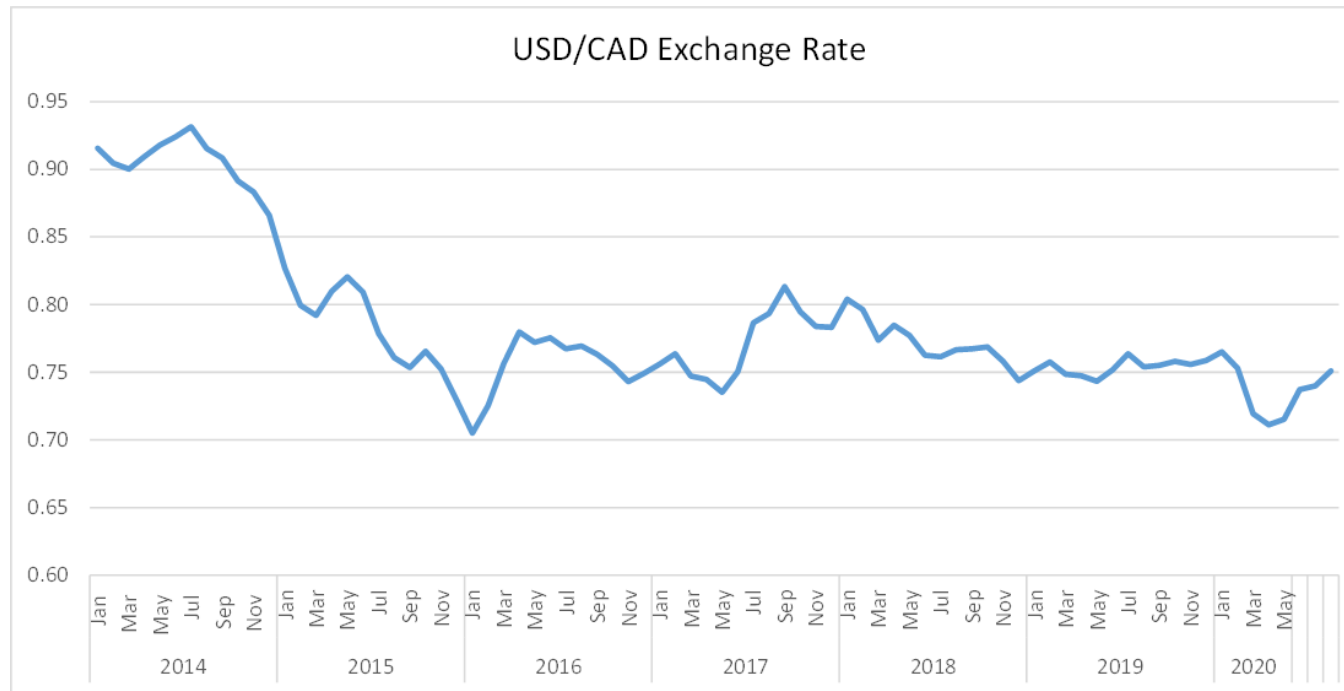


- GDP growth forecast
- PCE growth forecast
- Inflation rate forecast



Currency

- All revenue and investment figures included in this report are presented in Canadian dollars (CAD), unless otherwise specified.
- At the time of publication of this report 1 Canadian dollar (CAD) was worth 0.75113 US dollars (USD), compared with 0.7493 at the time of publication in 2019. The average for exchange rate for 2019 was 0.75376. The COVID-19 pandemic has had an impact on the exchange rate, with a rapid decline in the early months of 2020 but a recovery to pre-COVID levels apparent in recent months.



Some Notes on this Year's Report

- We have moved to a widescreen format so that we can have the analysis on the same page as the chart. We believe that this will make the report easier to comprehend and obviate the need for page flipping between analysis and chart.
- As a result of the COVID-19 pandemic, the short- and medium- term economic future of Canada is likely to be structurally different from the past. The forecasts that we have presented are anchored in the base case scenario for the economy. Prospects for the Canadian economy could change dramatically as the reopening unfolds and greater clarity emerges on the progress of the pandemic.
- There are also likely to be fundamental structural changes influencing consumer behaviour and payments in the Canadian market. We capture the behavioural component through the Canadian Consumer Payments Survey (CCPS), which was conducted at the height of the pandemic (April 2020). While this is unlikely to provide a comprehensive view of the impact of the pandemic, we believe that it gives us an excellent baseline from which to measure consumer behavioural changes in the payments industry going forward.
- We have streamlined the way that we have done the historical economic analysis since it provides only a basic context for our current economic environment. The emphasis has been placed more on where we are headed, from an economic standpoint, than where we have been.
- We have removed the Fraud section from the report since credit card fraud statistics are no longer made available and, starting this year, Interac has ceased publishing its debit card fraud statistics. We keep track of counterfeit bank notes but have not included it in this year's report. We would be happy to provide the relevant chart to subscribers that may be interested in receiving this information.
- We have removed the preauthorized payments section of the report. Our time series analyses in this area have traditionally been of the total commercial and consumers automated funds transfers provided by Payments Canada in their ACSS data. We are not able to separate the consumer portion out and hence to maintain consistency with other segments of the report we have removed it. Subscribers interested in the consumer survey data associated with preauthorized payments will find that in the Canadian Consumer Payments Survey 2020 report. At some point in the future we may reinstate this section if we are able to quantify the number and value of payments annually.

Some Notes on this Year's Report (cont'd)

- This year we started to collect data on loyalty redemptions and wearables. We have included an analysis and forecast for wearable payments in this year's report. For the purposes of this report we define wearables narrowly, to include fitness trackers and smart watches only. We will include an analysis of loyalty payments in next year's report should we have more meaningful time series data available on which to base our forecasts. Subscribers to the Canadian Consumer Payments Survey 2020 have access to the findings of survey data gained from the loyalty payments section. These are two emerging areas that are likely to gain in importance in future and will be dealt with in more depth in future editions of this report.
- We have streamlined some sections to make the information included in the report more accessible, and easier to navigate. In some cases this has been achieved by including the historic and forecast analysis on the same chart.

Document Navigation

- The Table of Contents and List of Charts and Tables contain hyperlinks to the sections, charts and tables in the document.
- In order to make navigation easier within the document, we have included hyperlinks on each page as follows:

Section Contents

- Clicking on the 'Section' block will take the reader to the start of the current section. Clicking on the 'Contents' block will take the reader to the Table of Contents.
- These navigation blocks are included on the bottom of all pages.
- The 'List of Charts and Tables', which follows the 'Contents' section, serves as a detailed table of contents.

Acknowledgements

- We would like to place on record our thanks to our subscribers to whom we are indebted for providing the financial backing for this project. We thank you for your input to the study—the information that you have provided as well as your unique insights and perspectives—and above all, for your continued financial support, which makes this study possible on a periodic basis.
- A continuing objective of ours this year was to obtain feedback from clients as to how we could improve the report. Our special thanks go to those subscribers who made the effort to engage with us in this process. We have used your valuable feedback to make modifications to the presentation, structure and content of the report.
- We would also like to record our thanks to all participants that contributed to this study, for the time and effort that they took to answer our questions and provide us with information. This study would not have been possible without their contribution.

List of Abbreviations used in this Document

We use the following abbreviations in this report:

ABM – Automated Banking Machine

bn – billion

CAGR – Compound Average Growth Rate

CCPS – Canadian Consumer Payments Survey

CERB – Canadian Emergency Response Benefit

FI – Financial Institution

GDP – Gross Domestic Product

k – thousand

m – million

PCE – Personal Consumption Expenditure

trn – trillion

TSI – Technology Strategies International Inc.

The Canadian Economy



Economic Highlights

Indicator	2019	Real Growth (2018-2019)	2024	Real CAGR (2014-2019)	Real CAGR (2019-2024)
Gross Domestic Product (GDP)	\$2,304 bn	1.6%	\$x,xxx bn	xx%	xx%
Personal Consumption Expenditure	\$1,297 bn	1.6%	\$x,xxx bn	xx%	xx%
Retail Sales	\$616 bn	0.4%	\$x,xxx bn	xx%	xx%
Population	37.6 m	1.4%	xx m	xx%	xx%

Sample

Economy exits 2019 on a downward trend

Growth in the Canadian economy has been declining since the rebound experienced in 2017. Growth in Gross Domestic Product (GDP) halved to 1.6% in 2019 compared with 2017, while the declines in growth of retail sales and Personal Consumption Expenditure (PCE) have been even more profound.

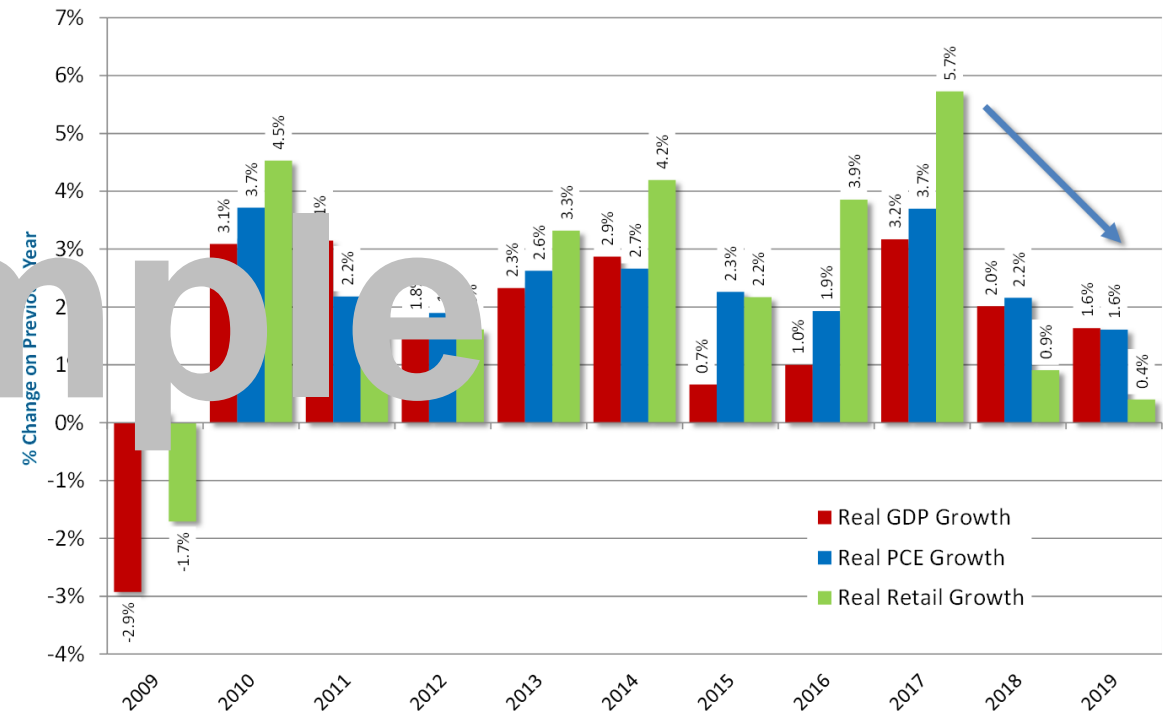
Much of this has been a result of slower growth in the global economy, weak oil prices and reduced business investment resulting from expectations of lower global demand.

Residential investment decreased as a result of regulatory measures to cool the housing market coupled with a higher interest rate regime. Growth in consumer expenditure, also affected by the housing market correction and higher interest rates, declined across a broad base, exhibiting a real growth rate more or less in line with the population growth rate in 2019. This directly affected retail sales, which grew at a miniscule 0.4% in real terms in 2019.

The further softening of the economy in 2019 led to much speculation amongst economists as to whether 2020 would herald in a recession for the Canadian economy, with an inverted bond yield curve suggesting that one was likely, if not imminent.

That was before the COVID-19 pandemic hit and prospects for the economy changed dramatically.

Annual Change in Real GDP, PCE and Retail Sales (2009-2019)



Source: Statistics Canada

PCE reaches almost \$1.3 trillion in 2019

In 2019 Personal Consumption Expenditure (PCE) on Goods and Services (PCE) amounted to \$1,297 bn in expenditure (in current dollars), about \$41 bn more than in 2018. Nominal growth in PCE was 3.3% over the year, corresponding to a real growth rate (chained 2012 \$) of 1.6%, indicating that growth in PCE has also abated over the past year.

Over the period 2014 to 2019, real growth in PCE came in at 2.3% p.a. (CAGR), significantly higher than the 0.6% recorded for GDP.

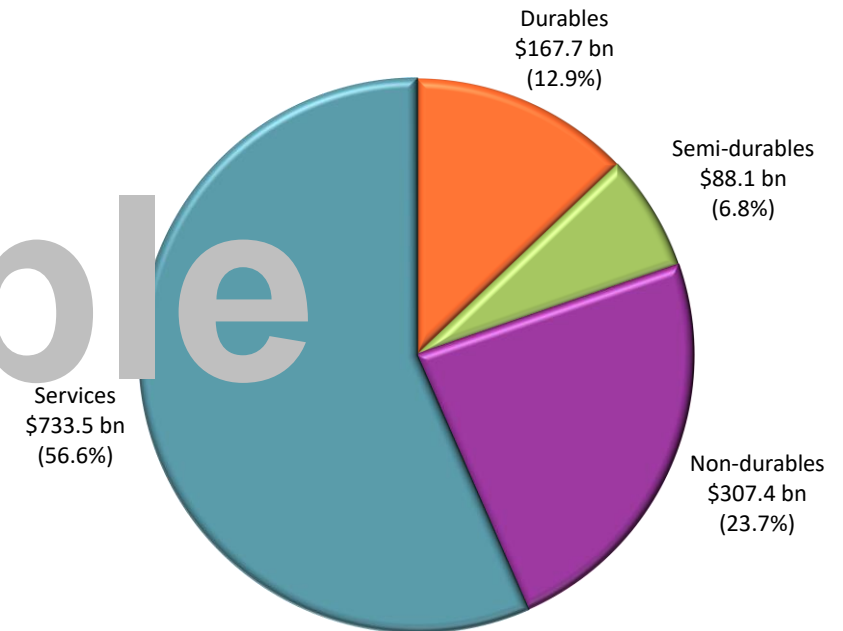
Expenditure on services continues to dominate PCE, accounting for 56.6% in 2019, a slightly higher share than in 2018, amounting to more than \$730 bn.

Durables, at \$167 bn, reduced its share of PCE to 12.9%, growing at only 0.6% in real terms in 2019. This is sharply down from the 7.2% growth experienced in 2017. Growth in durables experiences wide variations as the fortunes of the economy changes.

Consumption expenditure on non-durable goods reached almost \$308 bn in 2019 and growth over the year was only outstripped by growth in services.

All components of PCE experienced lower real annual growth rates in 2019 compared with 2018, with durable goods showing the most substantial decline in growth over the year.

Components of Personal Consumption Expenditure (2019)



Source: Statistics Canada

Cash



Cash Highlights

Indicator	2019	Growth (2018-2019)	2024	CAGR (2014-2019)	CAGR (2019-2024)
Cash Transactions					
<i>Value</i>	\$91.8 bn	-0.9%	\$xx.x bn	xx%	xx%
<i>Volume</i>	5.11 bn	-1.9%	x.xx bn	xx%	xx%
<i>Value of Average Transaction</i>	\$17.97	1.0%	\$xx.xx	xx%	xx%
Number of ABMs	10,740	-1.0%	,xxx	xx%	xx%
ABM and Bank Branch Withdrawals					
<i>Value</i>	\$93.1 bn	-1.3%	\$xx.x bn	xx%	xx%
<i>Volume</i>	589.2 m	-4.2%	xxx.x m	xx%	xx%
<i>Value of Average Transaction</i>	\$140.98	3.0%	\$xx.xx	xx%	xx%
Value of Cashback Transactions	\$8.7 bn	2.6%	\$xx.x bn	xx%	xx%

Cash in circulation grows while cash usage for payments shrinks

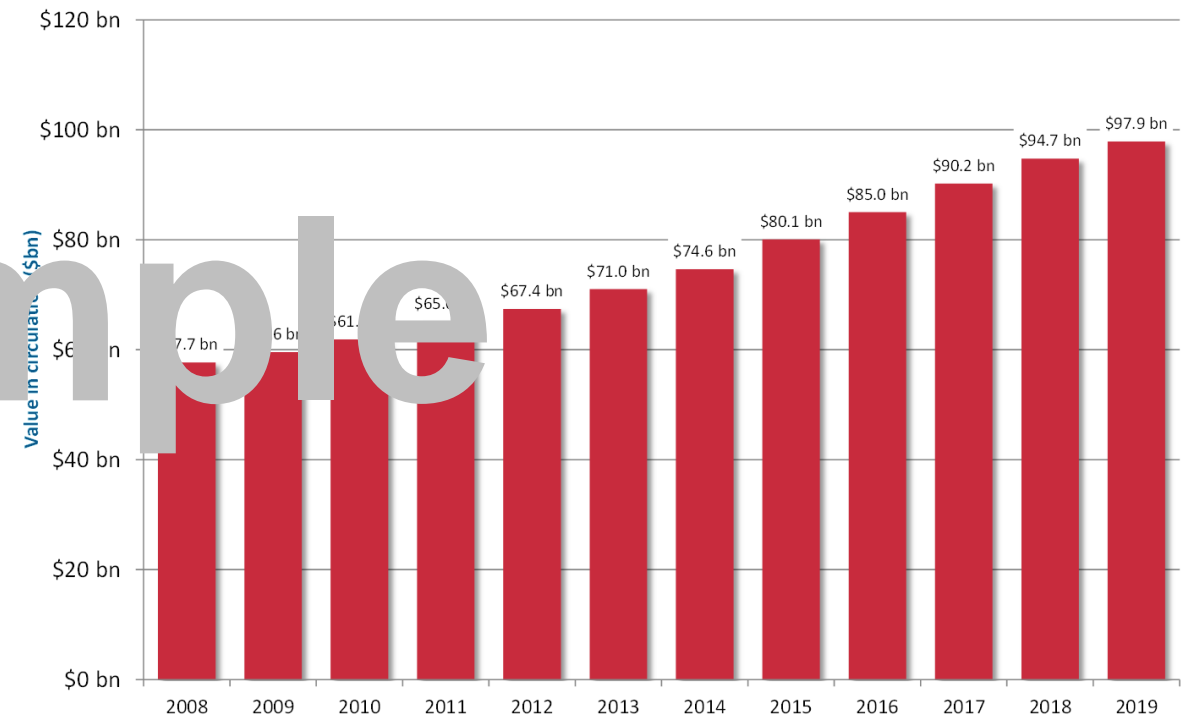
The value of cash in circulation has steadily increased over the past decade reaching \$97.9 bn in 2019 and up 3.4% from \$94.7 bn recorded in the previous year.

The value of cash in circulation has grown by 5.6% p.a. (CAGR) over the period 2014 to 2019, somewhat higher than ten-year average growth rate of 5.1% p.a. (CAGR), suggesting that it is, at the very least, maintaining its prominence in the Canadian economy. Demand for cash is, in part, determined by economic growth, population growth and inflation.

However, there is evidence of a shift to higher denominations. Bank notes of value \$20 and below have grown at an average rate of 5.2% p.a. (CAGR) over the past forty years, compared with 7.9% p.a. (CAGR) for PCE. Higher denomination notes, have by comparison grown at a rate of 7.9% p.a. (CAGR), suggesting a shift in usage to cash being store of value and away from being a payment instrument (since most consumer payments are made with small denomination bills). There has been some chatter in economist's circles about the need to abolish higher denomination bills to reduce the level of saving in the economy. Should this materialize in Canada, the value bank notes in circulation will start to decline and be more reflective of cash payments.

Coins made up approximately \$4.8 bn of the total cash in circulation in 2019, remaining stable at 2018 levels.

Canadian Bank Notes and Coin in Circulation
(2008 - 2019)



Source: Bank of Canada

Debit



Debit Highlights

Indicator	2019	Growth (2018-2019)	2024	CAGR (2014-2019)	CAGR (2019-2024)
Monthly IDP Users	25.4 m	N/A	xx.x m	xx%	xx%
Interac Debit Payments					
<i>Value (includes cashback)</i>	\$255.2 bn	1.6%	\$xx.x bn	xx%	xx%
<i>Volume</i>	6,249 m	3.4%	X,xxx m	xx%	xx%
<i>Value of Average Transaction</i>	\$40.85	1.8%	\$xx.xx	xx%	xx%
Interac Debit Merchants	48,135	4%	xx,xxx	xx%	xx%

Debit card payments growth slows

The economy weakened in 2019, which saw lower growth in debit card transaction values and volumes. There were 6.25 bn debit card payments transacted over the Interac network in 2019, 3.4% higher than in 2018, while the value of Interac debit transactions increased to \$255.2 bn, an increase of 1.6% over the previous year. These growth rates are lower than those recorded in the recession of 2009.

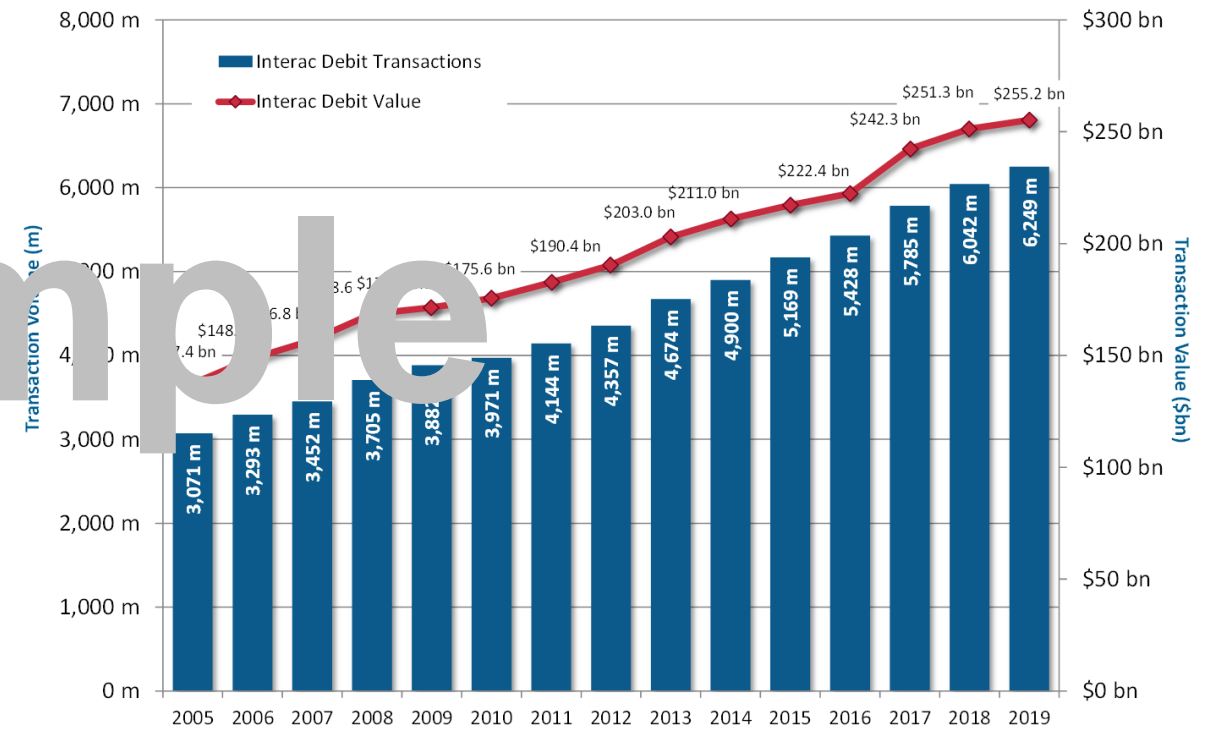
Over the past five years, growth in total annual debit card transaction volumes has averaged a healthy 5.0% p.a., while growth in total annual debit card transaction values has been slightly lower at 4.0% p.a. (CAGR). This is significantly lower than the comparable average annual growth rates for credit card purchase transaction volume and values which were 10.0% and 8.3% respectively over that period.

The average value of an Interac debit transaction edged down from \$41.59 in 2018, to \$40.85 in 2019, a decrease of 1.8% over the year.

The average monthly value of Interac debit purchases per Interac user was \$837.43 in 2019, a growth of 3.6% over the previous year. Interac users use their debit cards for purchases on average 20.5 times per month in 2019. Usage frequency has grown at an average rate of 4.2% p.a. over the past five years.

Debit card purchases accounted for 19.0% of PCE by value in 2019, and 30.5% by volume.

Value and Volume of Interac Debit Transactions (2005 - 2019)



Source: Interac

Interac acceptance expands

At the end of 2019 there were an estimated 481,485 merchants accepting Interac debit card payments, a decrease of 3.4% over the previous year. This is likely due to an overstatement of merchant numbers in 2018. The number of debit accepting POS terminals, on the other hand, increased by 4.6% to 1.48 m terminals.

Interac acceptance has increased substantially over the past few years, with the number of merchants increasing by 3.7% p.a. (CAGR) on average over the period 2014 to 2019, and the number of POS terminals increasing by 3.3% p.a. (CAGR) over this period. The average terminal intensity was 3.07 terminals per merchant in 2019, similar with 2017 levels.

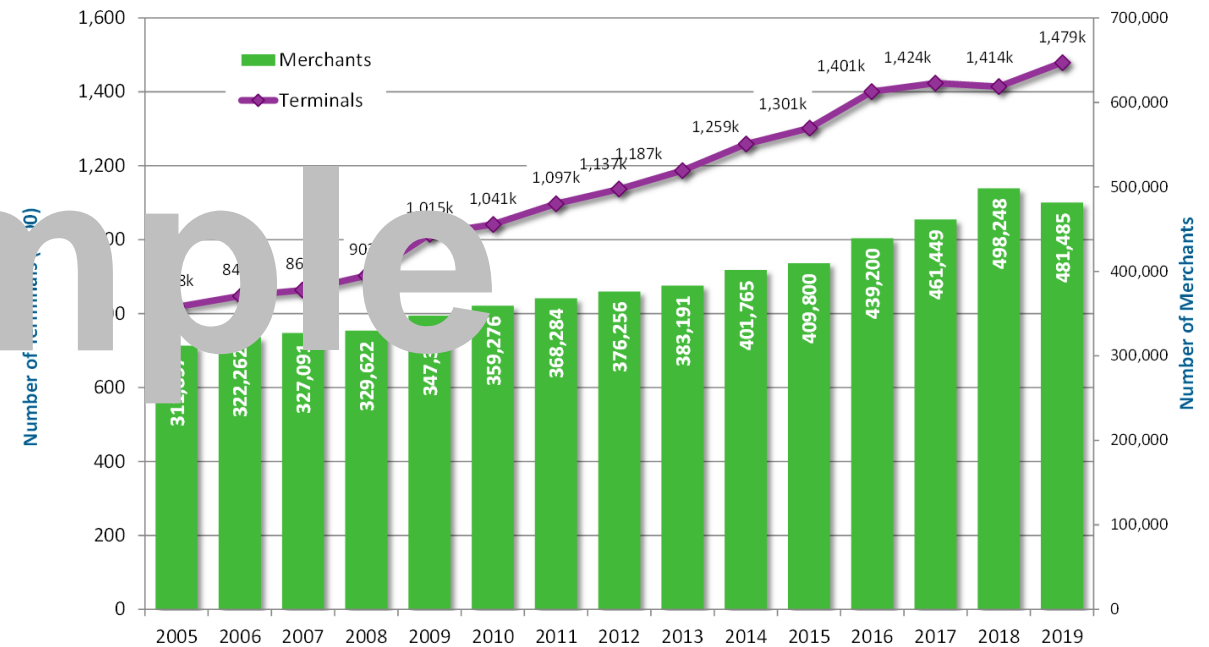
The average annual value of debit card transactions per merchant was \$530.1 k in 2019 up only 1% since 2017.

In 2019, the average annual number of transactions per merchant was 13.0 k or about 1,100 per month. This is on par with the merchant transaction volumes in 2017.

The number of transactions per merchant has registered a growth of 1.3% p.a. (CAGR) over the 2014 to 2019 period, lower than the 1.7% p.a. (CAGR) recorded for transactions per terminal.

The average annual value of transactions per terminal increased by 1.4% over 2017 levels, to \$173 k.

Number of Merchants and Terminals Accepting Interac Debit Payments (2005 - 2019)



Source: Interac

Mobile



Mobile Highlights

Indicator	2019	Growth (2018-2019)	2024	CAGR (2014-2019)	CAGR (2019-2024)
Smart phone subscribers	28.8 m	3.2%	xx.x m	xx%	xx%
<i>NFC Phones</i>	15.9 m	55.0%	xx.x m	xx%	xx%
Mobile Payments (Total)					
<i>Value</i>	\$45.7 bn	21.4%	\$97.6 bn	xx%	xx%
<i>Volume</i>	473.8 m	22.0%	xxx.x m	xx%	xx%
<i>Value of Average Transaction</i>	\$96.5	1.3%	xx.x	xx%	xx%
In-Store Mobile Payments					
<i>Value</i>	\$2.8 bn	38.8%	\$xx.x bn	xx%	xx%
<i>Volume</i>	135.5 m	31.6%	xxx.x m	xx%	xx%
<i>Value of Average Transaction</i>	\$20.97	5.4%	\$xx.xx	xx%	xx%

Apple's iOS share continues to increase

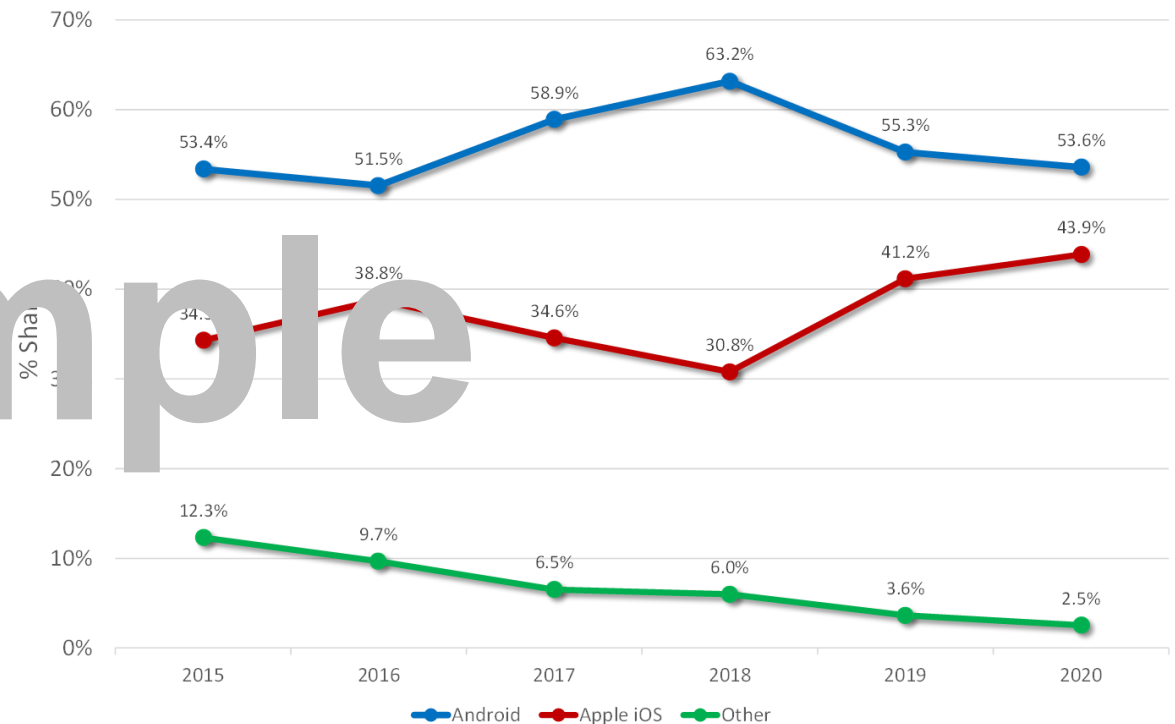
Smart phone adoption continues to increase rapidly in Canada, with almost 29 m devices in use at the end of 2019. Google's Android operating systems continues to dominate the Canadian market, but the share of primary smart phone devices using the OS has dropped for two consecutive years, to 53.6% of smart phone owners in TSI's 2020 CCPS. This is sharply down from the 63.2% recorded in the 2018 survey.

Android's dip has largely been a result in the increase of Apple's iOS adoption, which increased from 30.8% in the 2018 survey to 43.9% in 2020.

Of the Android smart phones, Samsung is the most popular device after the iPhone, with about three out of ten smart phone owners (30%) saying that this is their primary smart phone device.

All other operating systems have steadily declined over the years, and between them accounted for just 2.5% of smart phone subscribers in the 2020 survey.

Primary Smart Phone Operating System Ownership



Base: Respondents who own a smartphone: 2020 (n=1573)

Source: Canadian Consumer Payments Survey

Bill Payments and Transfers

Bill Payments and Transfers Highlights

Indicator	2019	Growth (2018-2019)	2024	CAGR (2014-2019)	CAGR (2019-2024)
TOTAL Transactions – All Channels	1,195 m	5.4%	xx.x m	xx%	xx%
ABM	46.6 m	-5.6%	xx.x m	xx%	xx%
<i>Bill Payments</i>	30.3 m	-4.5%	xx.x m	xx%	xx%
<i>Transfers</i>	16.3 m	-7.7%	xx.x m	xx%	xx%
PC/Internet	535.6 m	-4.0%	xx.x m	xx%	xx%
<i>Bill Payments</i>	237.1 m	-5.0%	xx.x m	xx%	xx%
<i>Transfers</i>	298.5 m	1.5%	xx.x m	xx%	xx%
Mobile	582.7 m	17.9%	xx.x m	xx%	xx%
<i>Bill Payments</i>	264.5 m	13.2%	xx.x m	xx%	xx%
<i>Transfers</i>	318.2 m	22.1%	xx.x m	xx%	xx%
Telephone	29.6 m	-7.2%	xx.x m	xx%	xx%
<i>Bill Payments</i>	20.2 m	-7.0%	xx.x m	xx%	xx%
<i>Transfers</i>	9.4 m	-7.5%	xx.x m	xx%	xx%

Mobile bill payments and transfers surge

The total number of transfers and bill payments reached 1.19 bn in 2019, up by 5.4% over the previous year. The average annual growth rate over the period 2014 to 2019 has been 5.9% p.a. (CAGR).

In 2019, an estimated 582.7 m mobile bill payments and transfers took place, an increase of almost 90 m transactions over the year. Mobile bill payments amounted to 264.5 m transactions, or 45.4% of mobile bill payments and transfers.

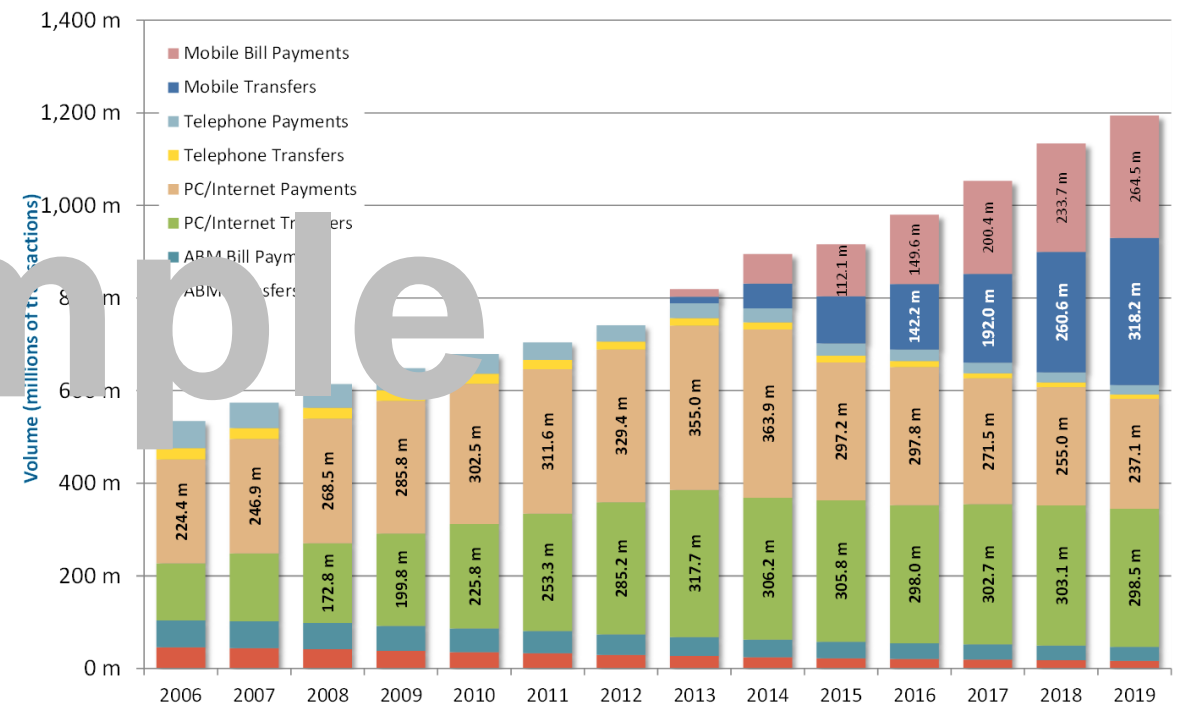
Mobile bill payments and transfers have skyrocketed over the past five years, largely at the expense of the non-mobile PC internet category, which was the dominant category by far until then. Substitution of PC based payments for mobile has been rapid as penetration of smart phones has increased, and with consumers becoming familiar with conducting financial transactions on their smart phones.

All other channels have experienced absolute declines in transaction numbers for both transfers and bill payments.

Transfer transactions have more than doubled over the past 8 years, reaching 642.4 m in 2019, while bill payments have only increased by 40% over this period.

ABM bill payments declined by 4.5% in 2019, the twelfth consecutive year of decline. ABM transfers declined by 7.7% over the year. These roles for the ABM are being overtaken by mobile online channels.

**Transfers and Payments by Delivery Channel
(2006 - 2019)**



Source: CBA & TSI estimates

Consumer Payments in Perspective



Credit card transaction volumes exceed debit volumes

Debit card transactions, which ousted cash as the dominant form of payment in terms of number of transactions just two years ago, has in turn been ousted by credit card transactions for the first time in 2019. The number of credit, debit and cash transactions were 6.32 bn, 6.25 bn and 5.11 bn transactions respectively in 2019.

Growth in the number of credit card transactions has averaged a remarkable 11.0% p.a. (CAGR) over the 2014 to 2019 period, compared with 5.0% p.a. (CAGR) for debit card transactions.

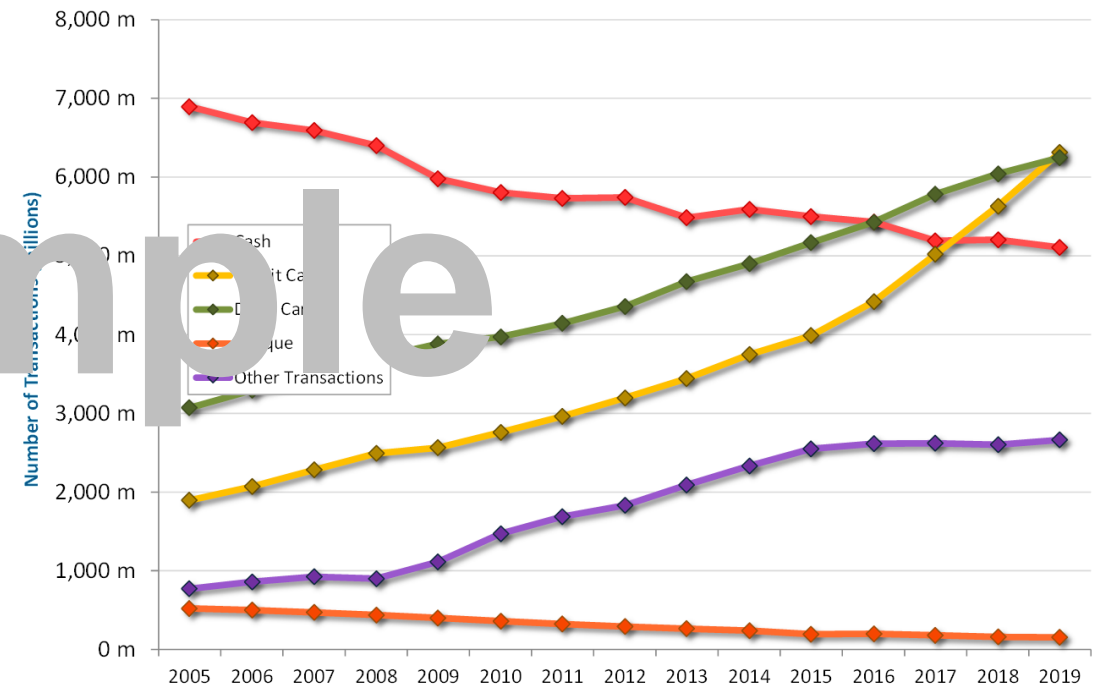
Personal cheque transactions have dwindled to just 155 m in 2019, dwarfed by all other primary forms of payment.

Consumer cash payment transactions have declined at an annual average rate of 1.8% p.a. (CAGR) over the past five years. This represents an acceleration of the average rate of decline using a five-year moving window.

By way of comparison, personal cheque transactions have plummeted at a rate of 8.3% p.a. (CAGR) off an already low base.

Cash has remained a remarkably resilient form of payment over the past decade in the face of threats from electronic payment mechanisms. Contactless and mobile payments have set the stage to be major disruptive forces against cash.

**Number of Payment Transactions
by Payment Instrument Type (2005 - 2019)**



Source: Interac, CBA, Payments Canada, Visa, MasterCard and TSI estimates

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