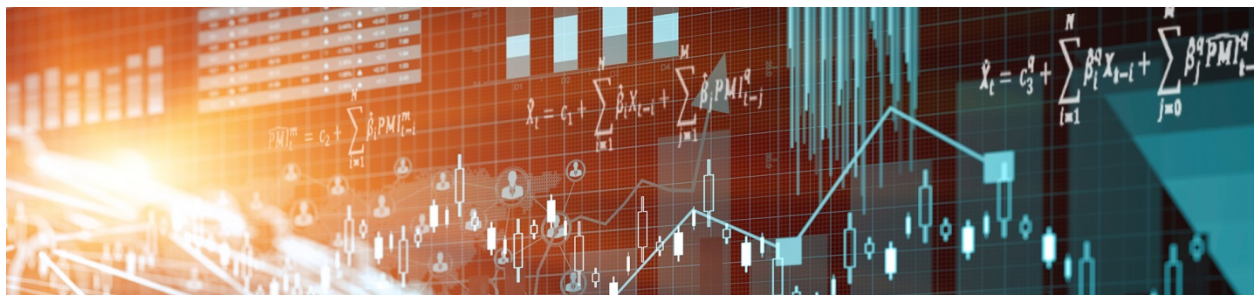


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2018 Merchant Acceptance Survey



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Abstract

In 2015, the Bank of Canada surveyed merchants and found that cash was nearly universally accepted (Fung, Huynh and Kosse 2017). Since 2015, retail payments in Canada have become increasingly digitalized, as many Canadians have adopted digital payment innovations like contactless cards and Interac e-Transfer. This trend prompted us to ask the question: what share of Canadian merchants still accept cash? The Bank of Canada's 2018 Merchant Acceptance Survey (MAS) was designed to study the acceptance of payment methods by small and medium-sized businesses (SMBs) in Canada. In this paper, we discuss the survey's design, methodology and findings, and compare our results with the findings from 2015. Our results show that cash remains accepted by 96 percent of SMBs in Canada and that only 8 percent of SMBs report plans to stop accepting cash within the next five years.

Bank topics: Bank notes; Econometric and statistical methods; Digital currencies and fintech.

JEL codes: C8, D22, E4, L2

Résumé

En 2015, la Banque du Canada a mené une enquête auprès de commerçants, qui a permis de conclure que l'argent comptant était accepté presque partout (Fung, Huynh and Kosse 2017). Depuis, les paiements numériques ont gagné en popularité au pays, bien des Canadiens ayant adopté de nouveaux modes de paiement comme les cartes sans contact et les virements *Interac*^{MD}. Cette tendance nous a amenés à nous demander quelle proportion des commerçants au Canada accepte toujours l'argent comptant. L'enquête sur les modes de paiement acceptés par les commerçants qu'a réalisée la Banque du Canada en 2018 avait pour but d'étudier l'acceptation des modes de paiement par les petites et moyennes entreprises (PME) au pays. Dans notre analyse, nous examinons la conception, la méthodologie ainsi que les conclusions de cette enquête, et comparons nos résultats avec les conclusions qui avaient été tirées en 2015. Nous constatons que 96 % des PME au Canada continuent d'accepter l'argent comptant et que seulement 8 % d'entre elles prévoient ne plus accepter les espèces d'ici cinq ans.

Sujets : Billets de banque; Méthodes économétriques et statistiques; Monnaies numériques et technologies financières:

JEL codes: C8, D22, E4, L2

1 Introduction

In 2015, the Bank of Canada surveyed merchants and found cash was nearly universally accepted (Fung, Huynh and Kosse 2017). In 2018, the Bank initiated the Merchant Acceptance Survey (MAS) as a follow-up study on the acceptance of payment methods by Canadian merchants. As the sole issuer of Canadian currency, the Bank is interested in understanding Canadians' cash demand. Engert, Fung and Hendry (2018) analyzed the potential for Canada to become a cashless society, where consumers cease using cash and merchants stop accepting cash, and concluded that existing concerns are unlikely to materialize. Nonetheless, emerging trends in the Canadian economy may affect future cash demand: namely, the evolving role of cash in Canadians' lives, and Canadians' increasing adoption of digital payment innovations.

The Bank has recently conducted several studies on consumers' use of cash, including the 2017 Methods-of-Payments (MOP) Survey and the 2018 Bitcoin Omnibus Survey (BTCOS). Henry, Huynh and Welte (2018) report that both the volume and value share of Canadians' cash transactions at the point of sale (POS) have been declining for the past decade. But the 2017 MOP also found that cash remains the preferred payment method of Canadian consumers in small-value and person-to-person transactions (Henry, Huynh and Welte 2018). Together, these findings suggest that the transactional role of cash in the lives of Canadians has been evolving. In addition, a key finding from the 2018 BTCOS is that Bitcoin adopters hold significantly more cash than typical Canadians, indicating that cryptocurrency adoption has not displaced cash use (Henry et al. 2019).

Retail payments have become increasingly digitalized in Canada. In 2009, about half of all transactions made by Canadian consumers at the POS were in cash, but this share dropped to one-third in 2017 (Henry, Huynh and Welte 2018). Further, the number of online transactions made by Canadians grew by 27 percent between 2012 and 2016, with the average internet user spending \$600 online in 2016.¹ In 2018, Statistics Canada estimated nearly 80 percent of Canadians used free or paid versions of digital products like e-books, online games and streaming services.² Transactions conducted digitally cannot be made with cash; and if the upward trend in digitalization persists, it may have a material effect on Canadians' future cash demand.

The market for payments is inherently two-sided, as a payment method must be both adopted by consumers and accepted by merchants to be used at the POS. Huynh, Nicholls and Shcherbakov (2019) use Canadian consumer and merchant survey data to estimate a structural model that accounts for the two-sided nature of retail payments. They stress the importance of obtaining data on both sides of the market to accurately assess cash use in Canada. The Bank of Canada has conducted relatively fewer studies of merchants than of consumers, with the most recent surveys being conducted in 2006 and 2015. Arango and Taylor (2008) studied Canadian merchants'

¹ Results from the 2018 report by Agriculture and Agri-Food Canada titled *An Overview of E-Commerce Trends in Canada*.

² Results from the 2018 Digital Economy Survey conducted by Statistics Canada.

acceptance, costs and perceptions around payment methods and found cash was universally accepted. More recently, [Fung, Huynh and Kosse \(2017\)](#) report that 94 percent of small and medium-sized businesses (SMBs) accept cash, but these firms stated the total cost incurred by accepting debit was lower than cash and credit cards.

The evolving role of cash together with the digitalization of commerce motivate the following research questions: have merchants increased their adoption of digital methods of payment, and has this resulted in a decline in the acceptance of cash? We contribute to the Bank of Canada's understanding of Canadians' cash demand by providing updated estimates on the acceptance of payment methods by Canadian SMBs. We focus specifically on SMBs, as organizations like Industry Canada have reported that SMBs account for a significant share of Canada's employment, exports and economic growth.³

2 Survey design and methodology

The 2018 MAS was primarily designed to update the Bank of Canada's data on the acceptance of payment methods by SMBs in Canada. In addition, we designed the survey to study the plans of Canadian SMBs to stop accepting cash, as well as to elicit their preferred method of payment for accepting different transaction values. To achieve these objectives, we sampled Canadian merchants with less than \$10 million in annual revenue and with at least one physical location. Moreover, we selected only merchants that primarily serve consumers (business-to-consumer [B2C] firms), as opposed to those that serve other businesses or the government. Finally, we constrained our sample of merchants to those with 50 employees or less for comparability with the 2015 Retailer Survey on the Cost of Payment Methods (RSCPM). After satisfying these conditions, our sampling methodology resulted in 542 observations of Canadian SMBs.

Consistent with the 2015 RSCPM, we targeted merchants from the following industries:⁴

- retail trade, which includes specialized (e.g., electronics or clothing) and general merchandise stores
- accommodation and food services, which include hotels, restaurants and bars
- other services (excluding public administration), which include many different merchants (e.g., automobile repair shops, hairdressers and laundromats)

For more details on the types of businesses in our sample, see **Table 1**.

The 2018 MAS was conducted online between November 2018 and February 2019. The sample was drawn from an opt-in panel, meaning that merchants voluntarily choose to join the survey. Accordingly, the group of merchants available may differ from those in the overall population. We

³ See Industry Canada's [Key Small Business Statistics—January 2019](#) for more details.

⁴ These industries correspond to the North American Industry Classification System (NAICS) codes 44–45, 72 and 81, respectively. More information on industry classification and NAICS codes are available on Statistics Canada's [website](#).

therefore follow the American Association for Public Opinion Research (AAPOR) guidelines, outlined in [Baker et al. \(2013\)](#), by not reporting margins of error since they cannot be computed reliably. Moreover, SMBs in Quebec and from the Other Services industry proved to be hard-to-reach populations, so we were not able to meet the corresponding sampling quotas. Consequently, we are not confident in domain-level estimates from these groups because their coefficient of variation was considerably higher. In line with [Statistics Canada \(2003\)](#), we suppress 2018 estimates from the Quebec region and Other Services industry by using an “X” where applicable.

Table 1: **Target industries for the 2018 Merchant Acceptance Survey**

NAICS code	Description
Retail Trade—General (44)	
441	Motor vehicle and parts dealers
442	Furniture and home furnishings stores
443	Electronics and appliance stores
444	Building material and garden equipment and supplies dealers
Retail Trade—Specialized (45)	
445	Food and beverage stores
446	Health and personal care stores
447	Gasoline stations
448	Clothing and clothing accessories stores
451	Sporting goods, hobby, book and music stores
452	General merchandise stores
453	Miscellaneous store retailers
454	Non-store retailers
Food and Accommodations (72)	
721	Accommodation services
722	Food services and drinking places
Other Services (81)	
811	Repair and maintenance
812	Personal and laundry services

Note: Businesses were targeted for the 2018 Merchant Acceptance Survey (MAS) at the two-digit North American Industry Classification system (NAICS) code level; specifically, we targeted NAICS codes 44, 45, 72 and 81. This table provides a description of sub-industries at the three-digit NAICS level to better understand the makeup of our sample; see [Statistics Canada](#) for more details. Note that, consistent with 2015, the following NAICS codes were excluded from sampling: 811210, 811310, 812210, 812220, 812310, 812330, 813 and 814.

We employed survey weights, adapting the calibration methodology proposed by [Deville and Särndal \(1992\)](#) and applied to Canadian SMBs in [Chen and Shen \(2017\)](#). Incorporating survey weights in our estimation helps reduce bias and improve the comparability of our results with the 2015 RSCPM. We calibrated our sample on the merchants' industry, location of headquarters and number of employees to match the population totals from Statistics Canada's [Business Register](#). All estimates in the paper are calculated with the resulting survey weights, unless otherwise noted.

Table 2: Sample composition of the 2015 Retailer Survey on the Cost of Payment Methods and 2018 Merchant Acceptance Survey

	Unweighted		Weighted	
	2015	2018	2015	2018
Employees				
0–5	52	58	70	73
6–50	48	42	30	27
Industry				
Retail Trade—General (44)	31	32	32	29
Retail Trade—Specialized (45)	19	20	11	15
Food and Accommodations (72)	27	27	20	26
Other Services (81)	23	21	38	30
Region				
British Columbia	18	18	14	15
Prairies	19	24	18	17
Ontario	23	38	38	38
Quebec	24	14	23	24
Atlantic	16	6	6	6
Total annual revenue				
<\$100,000	20	38	29	49
\$100,000–\$250,000	16	13	21	12
\$250,000–\$500,000	17	18	16	16
\$500,000–\$1 million	18	12	15	9
\$1 million – \$5 million	24	16	16	12
>\$5 million	5	3	4	2

Note: The number of employees, region and industry were used to compute our survey weights and calibrate our sample to be representative of the population. All estimates are reported as shares. Estimates in the “Weighted” column were computed using survey weights.

To study merchant acceptance over time, we compared results from the 2018 MAS with those from the 2015 RSCPM. Note that such comparisons should be interpreted with caution. First, the

modes of the surveys differ, as the 2015 survey was predominantly paper-based while the 2018 MAS was an online survey. Second, the survey questionnaires were very different, as the 2015 RSCPM focused more on the cost structure of accepting payments and was more in-depth than the 2018 MAS. Finally, the populations of interest are slightly different, as the 2015 RSCPM was not restricted to merchants below \$10 million in annual revenue. The latter consideration is largely mitigated because very few merchants have less than 50 employees and annual revenues exceeding \$10 million. These caveats aside, we compare acceptance rates by merchants between 2015 and 2018 to highlight the overarching trends.

Table 2 reports the sample composition of the 2015 RSCPM and the 2018 MAS, as well as the estimated proportions using survey weights. Comparing unweighted samples, we find that both the 2015 RSCPM and 2018 MAS sampled fewer merchants with zero to five employees, relative to the population totals. Notably, we did not have access to the aggregate distribution of merchants' revenue and therefore could not calibrate our survey weights on this variable. As a result, findings show a material difference between the share of merchants with \$100,000 or less in annual revenue in 2015 and the share in 2018. Going forward, we will work to improve our survey weighting methodology to account for merchants' annual revenue when calibrating our sample to the population.

3 Merchants' acceptance, plans and preferences over payment methods

3.1 Merchants' acceptance at the point of sale

In our analysis of the acceptance of payment methods by Canadian SMBs, we focus on cash, debit cards, credit cards, cheques, Interac e-Transfers and mobile payment applications. Debit and credit cards include both chip-and-pin and contactless payments, as well as payment networks such as Interac, Visa, Mastercard and American Express. Mobile payment applications (apps) include Apple Pay, Masterpass, WeChat Pay and Alipay.

Table 3 reports acceptance rates for cash, debit, credit and cheques by the region, industry and size of merchants. Cash continues to be almost universally accepted by merchants, at 96 percent. Similarly, debit and credit card acceptance among SMBs remains stable at around 70 percent. Notably, the acceptance of cheques declined substantially from 64 percent in 2015 to 34 percent in 2018. Regarding overall acceptance of cash, we did not observe significant variation across region, industry or size of merchants or between the 2015 RSCPM and the 2018 MAS. However, debit and credit card acceptance in 2018 fell for merchants employing five or fewer employees and rose for the specialized retail trade industry. Offsetting these findings, results showed relatively higher acceptance rates of cheques for merchants with five or fewer employees. Regarding variation across regions, we did not find substantial heterogeneity aside from cheques being accepted relatively more in British Columbia than in Quebec. Comparing our findings across time, we found that the specialized retail trade industry saw the largest increase in the acceptance of debit and credit. This

finding may be driven by the emergence of acquirers⁵ catering to smaller businesses. For example, we estimate that Square, a relatively new payment processor, was used by 15 percent of merchants accepting credit cards in 2018. Regarding cheques, we observed the smallest decline in Ontario and for the Food and Accommodations industry. This finding aligns with [Fung, Huynh and Kosse \(2017\)](#), who found these sub-demographics had the lowest acceptance rates for cheques in 2015.

Table 3: Merchants' acceptance of common payment methods

	Cash		Debit		Credit		Cheques	
	2015	2018	2015	2018	2015	2018	2015	2018
Overall	94	96	67	67	66	68	64	34
Employees								
0–5	93	98	58	60	57	60	64	37
6–50	96	91	92	89	91	90	64	23
Industry								
Retail Trade—General (44)	93	94	75	79	72	83	66	30
Retail Trade—Specialized (45)	98	99	69	85	64	75	63	28
Food and Accommodations (72)	98	95	74	78	72	74	37	23
Other Services (81)	92	X	56	X	59	X	78	X
Region								
British Columbia	94	97	66	68	60	69	70	41
Prairies	93	98	64	66	68	69	77	30
Ontario	96	97	73	68	73	66	59	36
Quebec	91	X	59	X	56	X	59	X
Atlantic	95	96	75	68	73	80	71	34

Note: This table compares payment acceptance rates from the 2015 Retailer Survey on the Cost of Payment Methods, reported in [Fung, Huynh and Kosse \(2017\)](#), and the 2018 Merchant Acceptance Survey. All estimates were computed using survey weights. Due to large coefficients of variation, we suppressed estimates from the Quebec region and Other services industry in 2018; see **Section 2** for more details.

Table 4 reports acceptance rates for the payment innovations Interac e-Transfer and mobile payment apps. While Interac e-Transfer existed before 2015, it was not widely adopted, and the 2015 RSCPM did not ask merchants if they accepted it. Since 2015, Interac e-Transfer has risen in popularity, as features like Autodeposit and Request Money have made it more convenient for merchants. In 2018, about 36 percent of Canadian SMBs accepted Interac e-Transfer, which is just above half the number of merchants that accept credit and debit cards. Mobile payment apps were

⁵ Merchant acquirers are financial institutions that act as a link between merchants and payment networks (such as Visa and Mastercard) by processing payments on behalf of merchants.

just emerging when the 2015 RSCPM was conducted, with only 5 percent of merchants accepting it. In 2018, that figure had tripled, with an estimated 18 percent of Canadian SMBs accepting mobile payment apps. Notably, the acceptance of mobile payment apps relies on existing infrastructure used for accepting contactless credit and debit cards, so this upward trend may reflect consumers' increased adoption of mobile payment apps rather than actions taken by merchants. We estimate the acceptance of Interac e-Transfer and mobile payment apps is relatively higher for retail trade merchants. Interestingly, we find Interac e-Transfer tends to be more accepted by small merchants and those with five or fewer employees, while mobile payment apps tend to be more accepted by relatively larger merchants.

Table 4: Merchants' acceptance of payment innovations

	Interac e-Transfer		Mobile
	2018	2015	2018
Overall	36	5	18
Employees			
0–5	40	5	14
6–50	24	5	31
Industry			
Retail Trade—General (44)	40	6	25
Retail Trade—Specialized (45)	35	8	18
Food and Accommodations (72)	30	5	17
Other Services (81)	X	3	X
Region			
British Columbia	41	11	22
Prairies	41	4	21
Ontario	37	3	17
Quebec	X	4	X
Atlantic	52	3	21

Note: This table compares payment acceptance rates from the 2015 Retailer Survey on the Cost of Payment Methods, reported in [Fung, Huynh and Kosse \(2017\)](#), and the 2018 Merchant Acceptance Survey. All estimates were computed using survey weights. Due to large coefficients of variation, we suppressed estimates from the Quebec region and Other Services industry in 2018; see **Section 2** for more details.

Regarding the payment infrastructure of Canadian SMBs, the 2018 MAS asked respondents to report the total number of POS terminals, cash registers and cash authentication devices that each merchant rented or owned. We group fixed-location POS terminals with mobile, or wireless, POS terminals and found the median number of POS terminals used by merchants in 2018 to be two. Similarly, we estimate that the median Canadian SMB rents or owns one cash register and one cash

authentication device. Given the observed decline in cash transactions at the POS, in favour of digital payment methods, it is reasonable that merchants rely more on POS terminals than cash registers. Finally, despite sampling only small Canadian merchants with at least one physical store, we found 41 percent of them also conducted operations online. This finding further indicates the digitalization of commerce in Canada, with a significant share of Canadian SMBs offering goods and services online to increase their visibility among consumers.

3.2 Merchants' plans to go cashless

As discussed in **Section 1**, [Engert, Fung and Hendry \(2018\)](#) analyzed the potential for Canada to become a cashless society and concluded that cash is unlikely to disappear from the Canadian economy. Moreover, [Engert, Fung and Segendorf \(2019\)](#) compared overall cash demand in Canada with that in Sweden, which has recently experienced a substantial decline in both cash use at the POS and cash demand more generally. They argued that Sweden's experience going cashless is the exception rather than the norm, relative to other developed economies, and concluded that Canada is unlikely to experience a similar decline in the near future. We contribute to the Bank of Canada's analysis of the potential for a cashless society to emerge in Canada by empirically studying merchants' plans to stop accepting cash.

Section 3.1 presented clear evidence that merchants' cash acceptance remains nearly universal, despite the decline in consumers' cash use at the POS. Nonetheless, we asked merchants to report whether they plan to stop accepting cash in the future. Their responses could indicate their own preferences and reflect how they perceive consumers' preferences changing. We estimate that only 5 percent of merchants currently do not accept cash and an additional 8 percent plan to stop accepting cash within the next five years. Importantly, 85 percent of merchants stated they have no plans to stop accepting cash.

Table 5: Merchants' and consumers' plans to go cashless

	Already cashless	Cashless within 5 years	Cashless in 5+ years	No plans to go cashless
Merchants	5	8	2	85
Consumers	7	5	3	85

Note: Merchant estimates are based on the 2018 Merchant Acceptance Survey, while the estimates for consumers were taken from the 2018 Bitcoin Omnibus Survey, reported in [Henry et al. \(2019\)](#). All estimates were computed using survey weights.

Notably, we found that merchants' plans around going cashless are in line with those of Canadian consumers. [Henry et al. \(2019\)](#) asked respondents the same question and found 7 percent of Canadians state they are already cashless and 5 percent plan to go cashless within five years. As with Canadian merchants, 85 percent of Canadian consumers have no plans to go cashless.

Together, these results suggest that Canadian consumers and merchants will continue to use cash going forward

3.3 Merchants' and consumers' preferences over payment

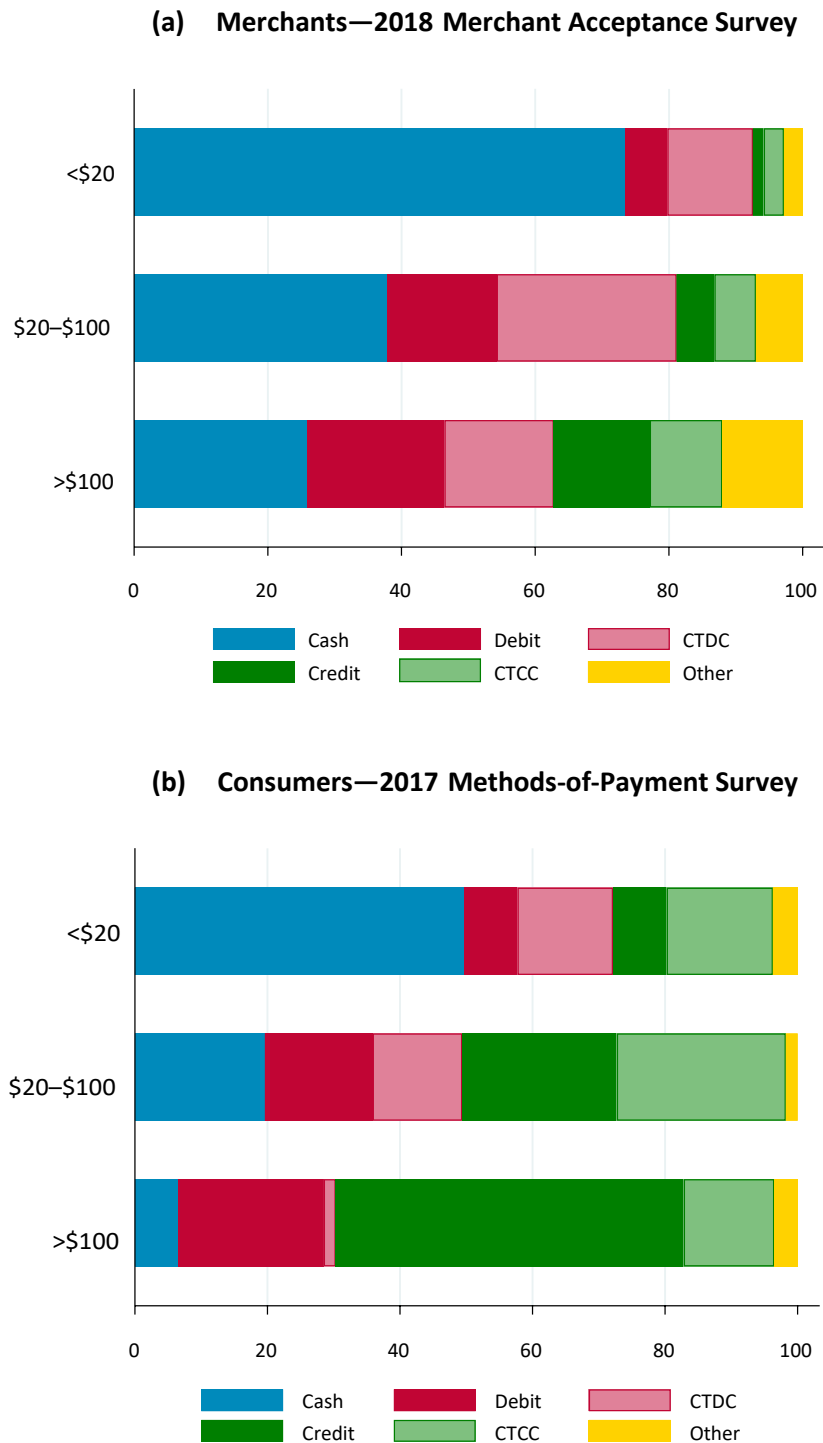
As discussed in **Section 1**, the payments market is inherently two-sided. Consequently, we must analyze both merchants (who choose the set of payment methods to accept) and consumers (who choose which payment methods to adopt and then use at the POS) when studying the acceptance of payment methods. In the 2018 MAS, we asked merchants to report their preferred payment method for accepting different transaction values. Similarly, the 2017 MOP survey reported payment shares for various transaction values at the POS, using data from respondents' payment diaries (Henry, Huynh and Welte 2018). **Figure 1** plots these two perspectives, which we view as a comparison of merchants' *stated preferences* with consumers' *revealed preferences*. Note that these labels are not exact, since a consumer could have preferred to use credit cards to earn rewards points but used another payment method if the merchant didn't accept credit cards or steered consumers to use a payment method with lower fees for the merchant.

We find that consumers and merchants tended to prefer cash for small-value transactions (less than \$20), while they preferred cards for transactions above \$20. However, consumers overwhelmingly gravitated toward credit cards, while merchants tended to prefer consumers to use debit cards. Previous research corroborates these findings, as 84 percent of Canadians who own credit cards earned rewards in 2017, and many Canadians stated they felt uncomfortable carrying more than \$100 in cash in public (Henry, Huynh and Welte 2018). In contrast, merchants often perceived cash to be most costly in terms of labour and credit cards to be most costly in terms of fees, while debit transactions tended to cost merchants the least overall (Kosse et al. 2017).

4 Conclusion

The 2018 MAS was designed to improve the Bank of Canada's understanding of the acceptance of payment methods by Canadian SMBs. In addition, we studied merchants' payment infrastructure, as well as their plans to go cashless and their preferences over payment methods for accepting different transaction values. The two key takeaways from our paper are that 96 percent of Canadian SMBs still accept cash and that the vast majority of merchants have no plans to stop using cash. Going forward, the Bank of Canada will continue to monitor trends in the acceptance of payment methods, as well as merchant's plans to stop accepting cash.

Figure 1: Merchants' and consumers' preferences, by transaction value



Note: Merchant results from the 2018 Merchant Acceptance Survey (MAS). Consumer results from the 2017 Methods-of-Payment (MOP) Survey: see [Henry, Huynh and Welte \(2018\)](#) for more details. The acronym CTDC represents contactless debit cards and CTCC represents contactless credit cards. The Other category includes payment methods such as Interac e-Transfer, mobile payment apps, cryptocurrencies and payment accounts like PayPal. All estimates were computed using survey weights.

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