

# Cryptoasset Ownership and Use in Canada: An Update for 2022

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## **Abstract**

This paper provides an update on cryptoasset ownership in Canada using data from two Bank of Canada surveys conducted in 2022. We find that Bitcoin ownership declined from 13% in 2021 to 10% in 2022, and ownership of other cryptoassets also fell. These drops occurred against a background of steep price declines and an increasingly tight regulatory atmosphere for cryptoassets.

*Topics: Bank notes; Digital currencies and fintech; Econometric and statistical methods*

*JEL codes: E4, C81, O51*

## **Résumé**

Cette étude présente des données à jour sur la possession de crypto-actifs au Canada tirées de deux enquêtes menées par la Banque du Canada en 2022. Elles font ressortir une baisse de la proportion de Canadiens détenant des bitcoins, qui a passé de 13 % en 2021 à 10 % en 2022. Une réduction analogue a concerné la détention d'autres crypto-actifs. Ces reculs sont survenus dans le contexte d'une chute abrupte des prix et d'un durcissement croissant de la réglementation des crypto-actifs.

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

*Codes JEL : E4, C81, O51*

# 1 Introduction

Supplying Canadians with bank notes they can use with confidence is one of the [five core functions](#) of the Bank of Canada. In fulfilling this function, the Bank researches how Canadians use cash and digital currencies. This research is relevant for monitoring for the two conditions that could warrant the Bank issuing a central bank digital currency (CBDC) ([Lane, 2020, 2021](#)): if Canadians almost or do stop using cash, or if Canadians widely adopt and use private cryptocurrencies for payments. Finally, research on digital currencies in particular has informed recent assessments of financial stability in Canada as cryptoasset markets continue to evolve and grow rapidly ([Bank of Canada, 2022b; Balutel et al., 2022a](#)).

A cornerstone of the Bank’s research agenda on digital currencies is the Bitcoin Omnibus Survey (BTCOS), which has been conducted annually since 2016.<sup>1</sup> The purpose of the survey is to monitor Canadians’ awareness and use of Bitcoin and other cryptoassets. Most recently, results from the 2021 BTCOS showed Bitcoin ownership surged to 13% of Canadians, up from the 5% observed in each of the previous three years. [Balutel et al. \(2022b\)](#) document how this increase took place alongside widespread increases in the savings and wealth of Canadians during the pandemic, together with reduced barriers for investing in cryptoassets. Canadians who became Bitcoin owners in 2020 or 2021 were more likely than earlier adopters to be motivated by investment reasons than payment-related reasons, to hold relatively small amounts of bitcoin and to obtain their bitcoin using mobile apps.

In this report, we provide an update on Bitcoin and cryptoasset ownership in Canada using data from two surveys conducted in late 2022. The 2022 version of the BTCOS was fielded in December, consistent with past versions. The Bank conducted a separate Cash Pulse Survey in late August, which contained a limited set of questions on Bitcoin ownership taken from the BTCOS.<sup>2</sup>

The price of Bitcoin declined in 2022 by more than 50% from the all-time highs observed at the end of 2021. As well, security regulators in the United States and Canada increased their scrutiny of cryptoasset markets just as FTX, one of the largest cryptocurrency exchanges, collapsed in November 2022. Against this background, we find that Bitcoin ownership declined to 10% of Canadians in 2022, resulting from fewer new adopters relative to 2021, combined with a stable exit rate from the market. Ownership rates of other cryptoassets also declined.

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<sup>1</sup>To be precise, the BTCOS was not conducted in 2020. However, a limited set of questions on Bitcoin awareness and ownership were included in the Bank’s Cash Alternative Survey. For details, see [Balutel et al. \(2022c\)](#).

<sup>2</sup>This report is more condensed than [Balutel et al. \(2022b\)](#) and focuses on key changes between 2021 and 2022. [Balutel et al. \(2022b\)](#) provides more details on the methodology used and a full analysis dating back to 2016.

## 2 Monitoring developments in cryptoassets in 2022

The Bank has conducted the BTCOS annually since 2016 to understand how Bitcoin's adoption and usage by Canadians could affect the financial system and impact the Bank's core function of producing and distributing bank notes. But developments in cryptoasset markets in 2022 called for additional monitoring.<sup>3</sup> This was accomplished by adding a limited set of questions to the Bank's Cash Pulse Survey (CPS) that was conducted in late August 2022.<sup>4</sup>

### 2.1 2022 Cash Pulse Survey (August)

The Bank increased the frequency of its surveys about cash and digital currencies during the COVID-19 pandemic to better understand how the pandemic affected consumers' use of cash and payment behaviours (Chen et al. (2020, 2021a,b), and Chen et al. (2022)). The Methods-of-Payment (MOP) survey in November 2021 was the most recent large-scale consumer survey the Bank conducted (see Henry et al. (2022)).<sup>5</sup> Because the MOP was in the field before the Omicron wave of the pandemic, the Bank conducted a shorter version of the survey, the CPS, in August 2022.

The main purpose of the CPS was to gauge how consumers were adjusting as case counts subsided from the January peak and public-health restrictions began to relax. Given the steep decline in cryptoasset markets by that point in 2022, the CPS included a limited set of questions on Bitcoin that covered awareness, ownership, reasons for owning and not owning, and the duration of ownership. These questions were taken directly from the 2021 BTCOS. A total of 3,002 Canadians responded to the CPS, including 256 Bitcoin owners.

### 2.2 2022 Bitcoin Omnibus Survey (December)

The 2022 BTCOS marked the sixth version of the survey since 2016. The Bank designs the BTCOS and market research firm Ipsos conducts the field research. The survey uses an online and device-agnostic methodology, meaning that it can be completed on any device that can be used to access the internet, such as a computer, laptop, tablet or mobile phone. We use quota-based sampling to recruit respondents for the BTCOS that are representative

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<sup>3</sup>For example, in April 2022, the US Federal Bureau of Investigations and Department of the Treasury identified a hacker group with ties to the North Korean regime as being behind one of the largest crypto heists on record. The following month, the stablecoin TerraUSD (UST) became the first fiat-referenced cryptoasset to lose its peg to the US dollar after a few large withdrawals triggered a run (Liu et al., 2023). By late August, the price of Bitcoin had a year-over-year decline of approximately 50%.

<sup>4</sup>See Appendix B for the topics covered by the 2022 surveys and past versions of the BTCOS.

<sup>5</sup>The MOP survey consists of both a survey questionnaire and a three-day diary where respondents record all of their payments and cash transactions.

of age, gender and region. The final sample of the 2022 BTCOS consists of a cross-section of 1,997 Canadians that included 200 Bitcoin owners.<sup>6</sup> The data are cleaned and the sample is weighted using an iterative raking procedure (Deville et al., 1993) to produce survey weights that are representative of demographic measures from the 2021 Canadian census.

A full description of the methodology for the BTCOS can be found in Balutel et al. (2022b). For previous versions of the survey, see the following reports: Henry et al. (2017), Henry et al. (2018b), Henry et al. (2019) and Balutel et al. (2022c).

## 3 Cryptoasset ownership and use in 2022

### 3.1 High-level trends in ownership and awareness

Bitcoin ownership in Canada declined to 9% in August 2022, with a slight uptick to 10% by the end of the year. These figures represent a decline from the 13% observed in December 2021 (**Chart 1**). Meanwhile, awareness of the term Bitcoin has remained stable at around 90% since 2018. **Table 1** presents the ownership rates among various demographic groups dating back to 2016. Similar to the results from previous years, ownership remains highest among men, those between the ages of 18 and 34, university-educated and those with a household income above \$70,000.

Declines in ownership from 2021 were persistent across most demographic segments, but with several notable exceptions. Whereas 2021 saw roughly equal ownership rates among respondents with low and high financial literacy, some owners with high financial literacy appear to have exited the market in 2022, while those with low financial literacy did not. This decline in ownership among those with high financial literacy was not likely a direct result of the collapse of FTX, given that rates of ownership were similar in August and December. Another exception was among those whose annual income is less than \$30,000. They actually had higher rates of ownership in 2022 than in 2021.

The distribution of when owners first purchased bitcoin helps explain the overall decline in ownership between 2021 and 2022 (**Chart 2**). In 2021, 24% of owners had adopted in the past year, but this figure fell to 19% in 2022. At the same time, the percentage of those who do not currently own bitcoin but did at some point in the past, which is a measure of the exit rate, remained stable at 4%. The combination of fewer new entrants and a stable exit rate caused the overall decline in ownership. We discuss whether the motivations of past

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<sup>6</sup>Each version of the BTCOS has had a total sample size of about 2,000, which allows us to construct sampling quotas by age, gender and region. The BTCOS is a repeated cross-sectional survey as opposed to a longitudinal panel, meaning the survey captures information about a moment in time instead of following respondents over a period of time. Appendix C in Balutel et al. (2022b) outlines how we assess the quality of data for respondents who report being Bitcoin owners. We use the same procedures for the 2022 BTCOS.

owners have changed since 2021 in section 3.3.

Despite a high level of awareness of the term Bitcoin among the general public, Canadians continue to demonstrate a low level of understanding of its basic features (**Chart 3**). We measure crypto literacy based on the methodology developed by Henry et al. (2019).<sup>7</sup> Among non-owners, who constitute the majority of Canadians, 61% have low crypto literacy and just 6% fall into the high-literacy category. These distributions have been more or less stable since 2016.

As expected, Bitcoin owners demonstrated a comparatively better understanding of the cryptoasset's features. Around 30% were highly knowledgeable about Bitcoin in 2022, which is similar to 2021. Results from the 2022 BTCOS show a decline in the proportion of respondents with a low level of crypto literacy compared with 2021, and an increase in those with a medium level of literacy. This could indicate either that a portion of Bitcoin owners learned more about the cryptoasset in 2022 or that those who exited the market had low levels of crypto literacy.<sup>8</sup>

Finally, **Chart 4** shows rates of awareness and ownership of cryptoasset alternatives to Bitcoin, so-called altcoins. In general, levels of awareness of altcoins remained roughly the same in 2022 as in 2021, and over half of respondents had not heard of any altcoins. Ownership rates declined for most of the altcoins considered between 2021 and 2022. For example, the ownership rate for ether, the second most popular cryptoasset, declined from 7% in 2021 to 4% in 2022. And about 1% of Canadians owned a stablecoin like Tether or USD Coin. All this suggests that the decline in Bitcoin owners in Canada was not because of a shift to other cryptoassets.

## 3.2 Motivations of owners and non-owners

**Table 2** shows self-reported motivations of Bitcoin owners (top panel), those who have never owned Bitcoin (middle panel) and past owners of Bitcoin (bottom panel).<sup>9</sup>

The main motivation for owning Bitcoin in 2022 continues to be as an investment, with over one-third (37%) of owners choosing this response option. This was substantially lower than the 55% observed in 2021.<sup>10</sup> The fact that investment reasons dominated the motiva-

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<sup>7</sup>See Appendix C for a description of both the financial and crypto literacy categories.

<sup>8</sup>We examine the relationship between financial literacy, crypto literacy and Bitcoin ownership in Balutel et al. (forthcoming a) and find that long-term owners tend to be both more knowledgeable about the cryptoasset and also have higher levels of financial literacy relative to short-term owners. As a large proportion of owners entered the market following 2020, as seen in **Chart 2**, we believe that past owners who exited the market in 2022 were short-term owners with a low understanding of Bitcoin.

<sup>9</sup>Past owners were shown several additional response options (compared with the list presented to respondents who never owned Bitcoin) that could help explain why they no longer hold bitcoin, such as “a price crash caused my bitcoin to lose substantial value” and “I cashed out my bitcoin for a profit.”

<sup>10</sup>Table 4 in Balutel et al. (2022b) showed the reasons for owning Bitcoin grouped into four categories instead of six, excluding the “My friends own Bitcoin” and “Other” categories. The reason for using four

tions of Bitcoin owners in 2021 and declined in 2022 should not be surprising. Canadians invested record amounts into a range of traditional financial assets, including mutual funds, foreign securities and real estate, throughout the pandemic. This carried over to Bitcoin, helping to explain the increase in the ownership rate to 13% in 2021.

A further 24% of Bitcoin owners in 2022 cited technology-related reasons, such as an interest in new technologies, for holding the cryptoasset, while 11% cited owning bitcoin for payment-related reasons. With the exception of 2021, the percentage of owners citing payment-related reasons for owning bitcoin has steadily declined from its peak in 2016.<sup>11</sup> Meanwhile, the proportion of owners citing “My friends own Bitcoin” increased substantially from 4% in 2021 to 10% in 2022.

Among respondents in 2022 who never owned bitcoin, 37% reported that their main motivation was a lack of trust in a private digital currency. A lack of knowledge or understanding was close behind (29% in December and 30% in August), followed by not being useful for payments (21% and 24%, respectively). Past owners reported a wide range of reasons for no longer owning bitcoin. Two of the most popular choices in 2022 were cashing out bitcoin for a profit—although this was cited notably less than in 2021—and having experienced a price crash, which was reported more often than in 2021. Past owners also cited concerns or lack of trust in a private digital currency much more frequently in 2022 than in 2021.

The BTCOS also asks how frequently owners use Bitcoin for making payments or person-to-person transfers (**Chart 5**). The distributions of these answers in 2022 were similar to previous years. Broadly, just under half of owners reported never or rarely using Bitcoin for either purpose, meaning once a year or less. A somewhat sizable cohort—39% in 2022, up from 35% in 2021—do report using Bitcoin at least a few times a month to pay for goods and services.

For the first time in 2022, we analyzed a follow-up question of Bitcoin owners who reported using the cryptoasset to pay for goods and services more than once a year. It asked the name of the last business or website where they used Bitcoin. Of the 98 Bitcoin owners who were asked this question, 41 provided a response.<sup>12</sup> The majority of respondents, 30 of the 41, reported cryptoasset-focused business, namely exchanges that deal primarily in cryptoassets such as Coinbase and Binance, cryptoasset-themed virtual casinos and payment facilitators that convert cryptoassets to more commonly accepted methods of payment such as store-branded prepaid cards.

Of the remaining 11 businesses, 9 do not directly accept cryptoassets, such as big-box

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categories was to make the most reasonable comparisons dating back to 2016. As a result, that report cited that 60% of owners selected investment as the primary motivation in 2021 (versus 55% reported here). However, we observe a notable increase in the proportion of owners choosing “My friends own Bitcoin” in 2022, and therefore have updated the methodology for **Table 2** to reflect the distribution over six categories.

<sup>11</sup>See, for example, Table 4 in [Balutel et al. \(2022b\)](#).

<sup>12</sup>Respondents were allowed to answer “Don’t know / prefer not to say.”

retailers and gas stations. However, we found that various online retailers sell digital, store-branded prepaid cards for all 9 businesses. One of the aforementioned payment facilitators that accepts cryptoassets in exchange for store-branded prepaid cards lists all 9 businesses in its offering. Of the remaining 2 businesses, 1 is an online electronics retailer and the other is a file-hosting website.

### 3.3 Bitcoin holdings: amount, methods, and risks

**Chart 6** shows the distribution of Bitcoin owners according to the amount of bitcoin they currently hold, measured in Canadian dollars. The distribution in 2022 is roughly the same as in previous years. Most owners hold small amounts of bitcoin: in 2022, 33% reported holding \$100 or less, whereas only 15% held more than \$10,000. The median holding of \$500 was essentially unchanged from 2021.

**Chart 7** compares how Bitcoin owners reported obtaining their Bitcoin holdings in 2021 and 2022. Respondents could select multiple options and may have indicated methods they used in the past even if they don't use them currently. Mobile and web exchanges were the most popular reported methods, with 46% of owners using these methods. The share of respondents who reported using mobile apps declined by 7 percentage points compared with 2021. Interestingly, 18% of owners in 2022 reported using person-to-person transfers, which was a noticeable increase from the 6% observed in 2021. Of those who reported having used mining, over half of them first obtained bitcoin prior to 2020. In addition, 12 of the 41 owners who reported mining their bitcoin also reported using Binance or Kucoin exchanges. These exchanges offer so-called cloud mining services to customers who don't have the capability to independently mine for bitcoin.

For the first time in 2022, the BTCOS included a follow-up question for crypto exchange users, asking them which exchanges they have used (**Chart 7b**). Responses reflect exchanges that consumers used at any point in the past to obtain their bitcoin, not just in 2022. Coinbase was the most popular exchange, having been used by 38% of those who obtained bitcoin on the web or via a mobile app, followed by Crypto.com at 31% and Wealthsimple at 26%.

Exchanges operated with varying legal statuses in Canada in 2022. For example, Wealthsimple offers cryptoasset trading through a company that is separated from its conventional investing platform. Wealthsimple Digital Assets Inc. is registered as a restricted dealer with the Canadian Securities Administrators (CSA), meaning it is an authorized crypto-trading platform. Coinbase, Crypto.com, Kraken and Gemini can offer services to Canadians while they await a decision on their applications to register with the CSA. However, the platforms must provide protections for investors, such as limiting the types of cryptoassets available to trade. In May 2023, Binance announced on Twitter that it was withdrawing from the

Canadian market.<sup>13</sup> This decision came over a year after the platform submitted a legal agreement to the Ontario Securities Commission to cease operations in the province after skirting the regulator’s compliance guidelines for most of 2021.

Finally, **Chart 8** shows some risks that cryptoasset owners face. In 2022, almost one-third of cryptoasset owners (31%) reported that their holdings lost substantial value because of a price crash, up from one-quarter in 2021. Losing access to a wallet was less of a concern in 2022 than in 2021 (5% in 2022, down from 11% in 2021), whereas scams for initial coin offerings and data breaches were reported more often in 2022.

### 3.4 Cash holdings of Bitcoin owners

[Balutel et al. \(2022d\)](#) find that Bitcoin owners hold significantly more cash than non-owners, even after taking various factors into account, based on data from the 2017 and 2018 versions of the BTCOS. Recent data, shown in **Chart 9** and **Table 3**, suggest that this trend continued into 2022. The BTCOS measures cash holdings as the amount of cash held in a respondent’s “wallet, purse or pocket.” The median amount of cash on hand for Bitcoin owners in 2022 was \$100, which is twice the median of \$50 for non-owners. The results are similar to those in 2021. Finally, we find the share of Bitcoin owners holding no cash (13%) is close to the share for non-owners (11%) in 2022.

## 4 Discussion and conclusion

Results from the 2022 cryptoasset surveys should be understood in the broader context of events that transpired throughout the year. Canada began 2022 with the consumer price index showing that inflation in January surpassed 5% on a year-over-year basis for the first time since September 1991 ([Statistics Canada, 2023](#)). Higher than normal inflation was not unique to Canada: the Organisation for Economic Co-operation and Development estimated that inflation in G7 countries averaged 5.8% during the same period ([Organisation for Economic Co-operation and Development, 2023](#)).<sup>14</sup> Along with most major central banks, the Bank responded by rapidly raising interest rates ([Bank of Canada, 2022a](#)).

Financial markets became increasingly volatile as participants anticipated and then saw interest rates climb. This reduced investors’ appetites for risky assets, including cryptoassets ([Bank of Canada, 2022b](#)). Increases in interest rates over 2022 coincided with a decrease of

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<sup>13</sup>Binance (@Binance), “Unfortunately, today we are announcing that Binance will be joining other prominent crypto businesses in proactively withdrawing from the Canadian marketplace.” [Twitter](#) (May 12, 2023).

<sup>14</sup>The Group of 7 (G7) countries are Canada, France, Germany, Italy, Japan, United Kingdom and the United States.

over 50% in the price of Bitcoin.<sup>15</sup> <sup>16</sup>

Also notable in 2022 was an increasingly tight regulatory environment. In Canada, the CSA enhanced its demands of cryptoasset trading platforms by mandating that they register as dealer or marketplace platforms and comply with investor protection laws ([Canadian Securities Administrators, 2022a](#)). The CSA also warned that failure to comply may be met with enforcement action ([Canadian Securities Administrators, 2022b](#)). Signalling a firmer approach toward the sector, the CSA banned two cryptoasset trading platforms in the second half of 2022.<sup>17</sup>

In the United States, the Securities and Exchange Commission (SEC) announced the doubling of staff in the Crypto Assets and Cyber Unit, which investigates violations of securities laws involving cryptoassets ([US Securities and Exchange Commission, 2022c](#)). Subsequently, the SEC filed charges against a range of individuals, from public figures to managers at some of the largest exchanges, including Coinbase ([US Securities and Exchange Commission, 2022a](#)). At the end of 2022, the SEC charged the founder and CEO of FTX with fraud after the exchange's high-profile collapse ([US Securities and Exchange Commission, 2022b](#)).

Against this background, Bitcoin ownership in Canada declined in 2022. Investors did not appear to shift out of Bitcoin and into other cryptoassets, as we observe decreased ownership of altcoins. Past owners were more likely to have given up on Bitcoin due to the steep price decline, whereas in 2021 more past owners cashed out for a profit. The decline in Bitcoin ownership from 13% to 10% contrasts with stable ownership rates observed from 2017 to 2018 (5%) when prices declined even more than between 2021 and 2022. More research is required to understand the drivers behind the different market dynamics at these two time periods (see, e.g., [Balutel et al. \(forthcoming b\)](#)).

For those who remained Bitcoin owners in 2022, their characteristics are similar to those observed in recent years. A subset of owners (under one-third) are highly literate about how the Bitcoin system actually works, while a slightly larger proportion have basically no knowledge. Owners continue to be motivated by investment, hold relatively small amounts of bitcoin, and use it infrequently for payments. The evidence also shows that a small number of committed users have found indirect ways to buy typical retail goods and services with Bitcoin, such as purchasing gift cards.

The Bank will continue to monitor cryptoasset use in Canada via surveys and other means.

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<sup>15</sup>Based on price data published by Coinbase, retrieved from FRED ([Coinbase, 2023](#)).

<sup>16</sup>[Halaburda et al. \(2022\)](#) provide an overview of the economic literature on what determines the price of Bitcoin. The authors highlight that much of Bitcoin's price volatility is unrelated to market fundamentals, and suggest two potential sources for the noise driving price formation: media coverage and concentrated efforts to manipulate the price.

<sup>17</sup>The [CSA](#) banned KuCoin on June 21, 2022, and Poloniex on October 27, 2022.

# Tables

Table 1: Percentage of Canadians who own Bitcoin, 2016 to 2022

	2016	2017	2018	2019	2020 Nov.	2021	2022 Aug.	2022 Dec.
Overall	3.2	4.3	5.2	5.1	5.1	13.1	9.1	10.1
Male	4.4	6.6	6.7	8.1	8.3	19.3	14.7	15.4
Female	2.2	2.1	3.7	2.2	2.1	7.2	3.9	5.1
18-34	9.1	11.1	10.5	7.8	11.0	25.6	19.4	20.5
35-54	1.6	3.2	4.9	6.7	5.6	14.7	9.3	11.3
55+	0.5	0.5	1.7	1.7	0.6	2.8	2.3	2.5
High school	3.8	3.7	2.3	3.3	3.7	11.2	8.9	9.1
College	1.5	3.1	5.7	4.3	5.1	10.5	7.5	8.3
University	4.3	6.7	9.1	8.7	7.4	18.8	11.1	13.3
<\$30,000	3.1	4.3	2.8	3.7	4.3	5.8	5.9	8.0
\$30,000-\$69,000	3.9	5.6	4.8	3.8	4.9	12.4	8.0	10.2
\$70,000+	3.7	4.3	7.0	6.6	5.4	17.2	12.0	12.4
Employed	3.9	6.1	7.1	6.8	7.3	18.9	14.1	15.2
Unemployed	7.3	1.9	5.2	0.9	3.8	12.4	7.3	5.2
Not in labour force	1.5	1.5	1.9	2.3	1.8	3.3	2.1	2.7
British Columbia	2.8	5.2	6.3	5.3	5.1	19.6	10.1	6.5
Prairies	2.1	4.1	6.0	3.9	7.6	14.2	9.4	7.6
Ontario	2.5	3.9	5.2	6.2	5.0	12.3	8.3	10.8
Quebec	5.5	5.1	4.6	4.4	3.9	11.6	10.8	14.1
Atlantic	3.2	3.1	2.8	3.8	3.3	6.2	5.5	6.8
FL: Low			7.3	7.5	8.4	15.6	15.6	13.6
FL: Medium			4.7	2.9	5.3	8.8	5.5	7.3
FL: High			4.1	5.0	5.3	14.7	8.7	10.2

Note: This table reports the estimated percentage of Canadians in each demographic segment who own Bitcoin, which is based on the proportion of “Yes” responses to the survey question “Do you currently have or own Bitcoin?” “FL” is financial literacy. See Appendix C for details on how the financial literacy categories are constructed. The Prairies region includes Alberta, Saskatchewan and Manitoba. The Atlantic region includes New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador. All estimates are calculated using survey weights.

Table 2: Reasons for owning or not owning Bitcoin, 2021 and 2022

	2021	2022 - Aug.	2022 - Dec.
<b>Owners (%)</b>			
Buy goods & services / make remittances	9	14	11
Investment	55	37	37
Lack of trust / anonymous payments	10	14	13
Interest in new technologies	19	22	24
Friends own Bitcoin	4	10	10
Other	3	3	5
<b>Never owners (%)</b>			
Lack of knowledge/understanding; not easy to use	39	30	29
Lack of payment function	23	24	21
Volatility	6	9	8
Concerns or lack of trust in private digital currency	27	33	37
Use alternative digital currencies	1	1	1
Other	4	3	4
<b>Past owners (%)</b>			
Lack of knowledge/understanding; not easy to use	12	9	11
Lack of payment function	7	9	12
Volatility	8	5	6
Concerns or lack of trust in private digital currency	7	22	14
Use alternative digital currencies	10	2	4
A price crash caused my Bitcoin to lose substantial value	11	23	14
I lost access to my personal cryptocurrency wallet	3	2	9
I cashed out my Bitcoin for a profit	39	21	24
Other	3	7	6

Note: Survey respondents were asked to provide the primary reason for their ownership or non-ownership by making a selection from a list (see question Q3a in [Appendix A](#) for the full list). Previous reports such as [Balutel et al. \(2022b\)](#) showed the distribution of responses over four groups of reasons to allow for comparisons back to 2016. We expand this distribution to six groups after observing a notable increase in the proportion of owners who selected “My friends own Bitcoin” as the primary motivation in 2022. We also include “Other” to facilitate comparisons going forward. Non-owners fall into two categories: never owners, which refers to those who have never held Bitcoin; and past owners, which refers to the group of respondents who held the cryptoasset at some point in the past. Past owners were shown an expanded list of reasons that included additional options of “A price crash caused my Bitcoin to lose substantial value,” “I lost access to my personal cryptocurrency wallet” and “I cashed out my Bitcoin for a profit.”

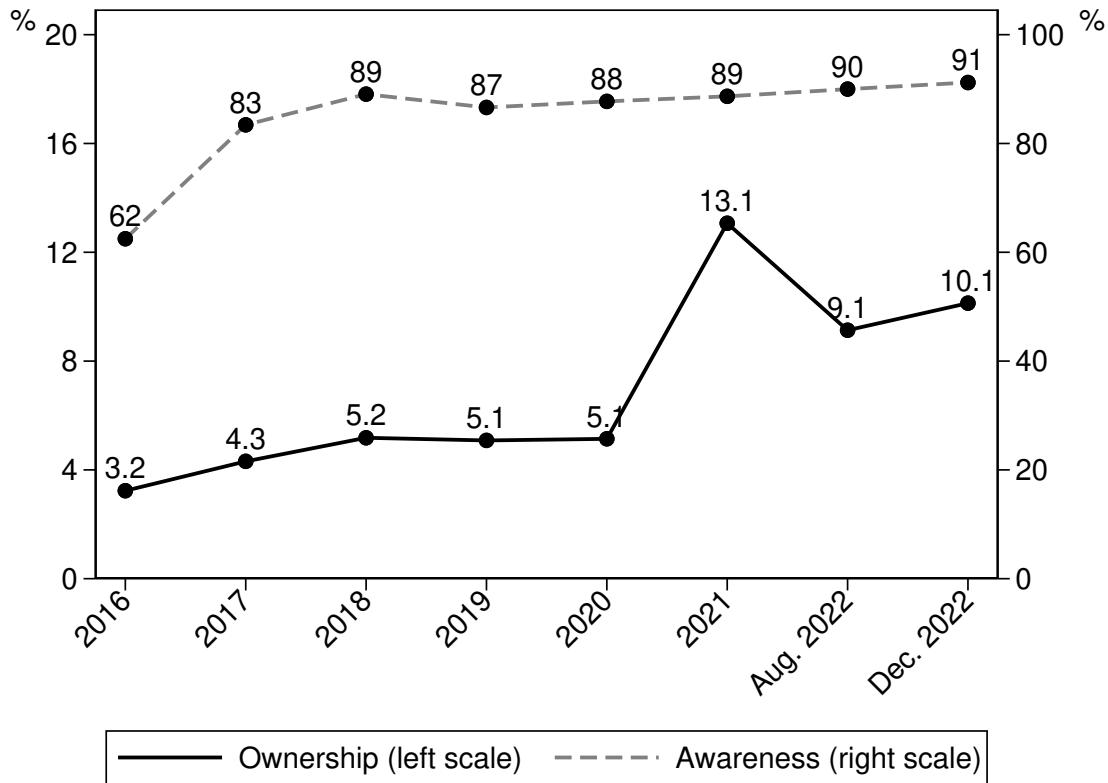
Table 3: Cash and Bitcoin adoption in Canada

	Cash on hand		No cash	N
	mean	median	percentage	
<b>Bitcoin adopters</b>				
2022 BTCOS	361	100	13%	277
2021 BTCOS	578	100	15%	302
<b>Non-adopters</b>				
2022 BTCOS	120	50	11%	1717
2021 BTCOS	171	50	12%	1672

Note: “Cash on hand” is the amount of cash in a respondent’s wallet, purse or pockets. Bitcoin adopters are both current and past owners, while non-adopters have never owned the cryptoasset. The “No cash” column represents the percentage of respondents reporting zero as the value of their cash holdings.

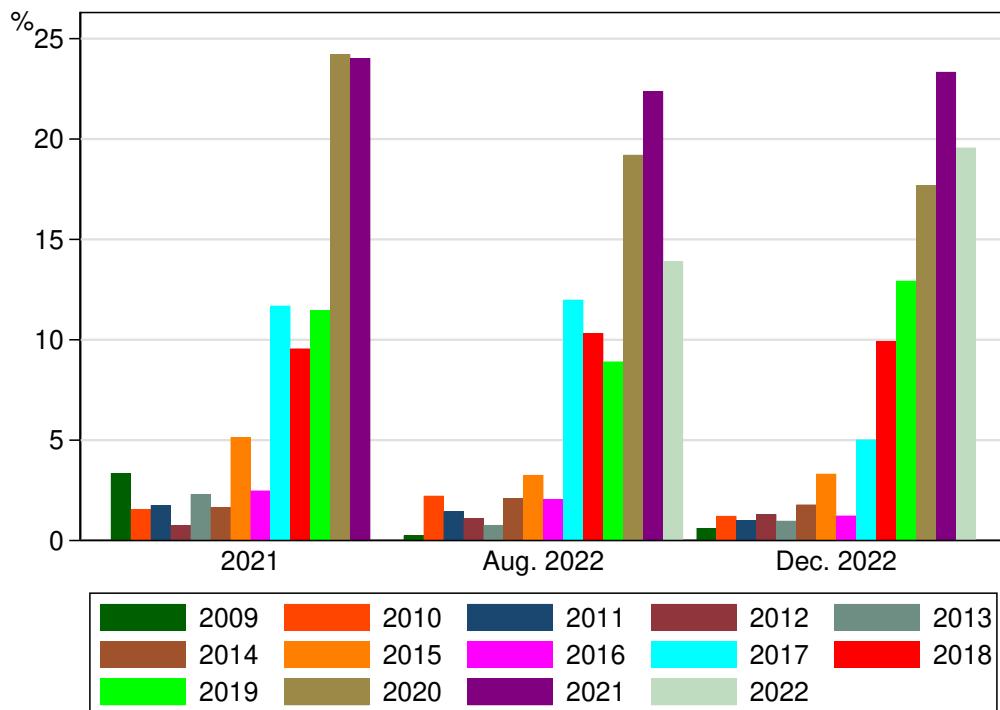
# Charts

Chart 1: Bitcoin awareness and ownership in Canada, 2016 to 2022



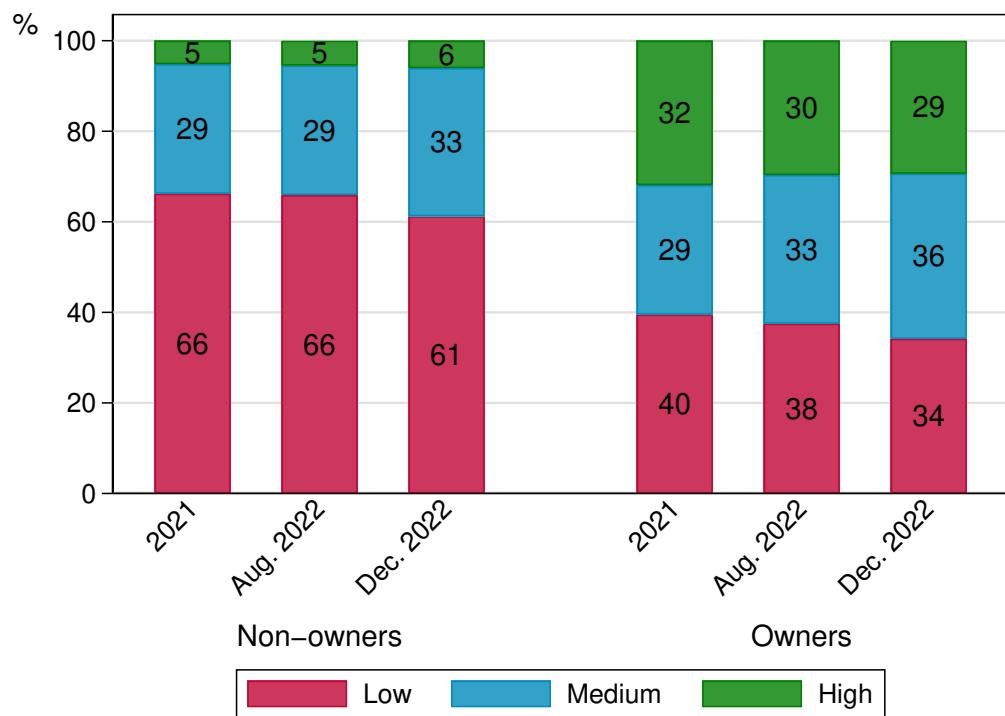
Note: This chart plots the estimated percentage of Canadians who are aware of Bitcoin (dashed line) and reported owning Bitcoin (solid line). The horizontal axis corresponds to the years of survey data collection. Data used to estimate ownership from 2016 to 2019, in 2021 and in December 2022 are from the Bitcoin Omnibus Survey (BTCOS), while the data for 2020 and August 2022 estimates are from the Cash Alternative Survey (CAS) and Cash Pulse Survey (CPS), respectively, which contained an abbreviated module of the BTCOS questionnaire. Estimates are calculated using survey weights.

Chart 2: Percentage of Bitcoin owners by the year of first acquisition, 2021 and 2022



Note: This chart reports the results of the question “When did you first obtain Bitcoin?” which was added to the BTCOS in 2021. The horizontal axis corresponds to each survey wave that included the question. Within each survey wave, the bars represent the percentage of owners by the self-reported year of initial acquisition. The range of years spans from 2009 to 2022, as Bitcoin was first introduced in January of 2009. Estimates are calculated using survey weights.

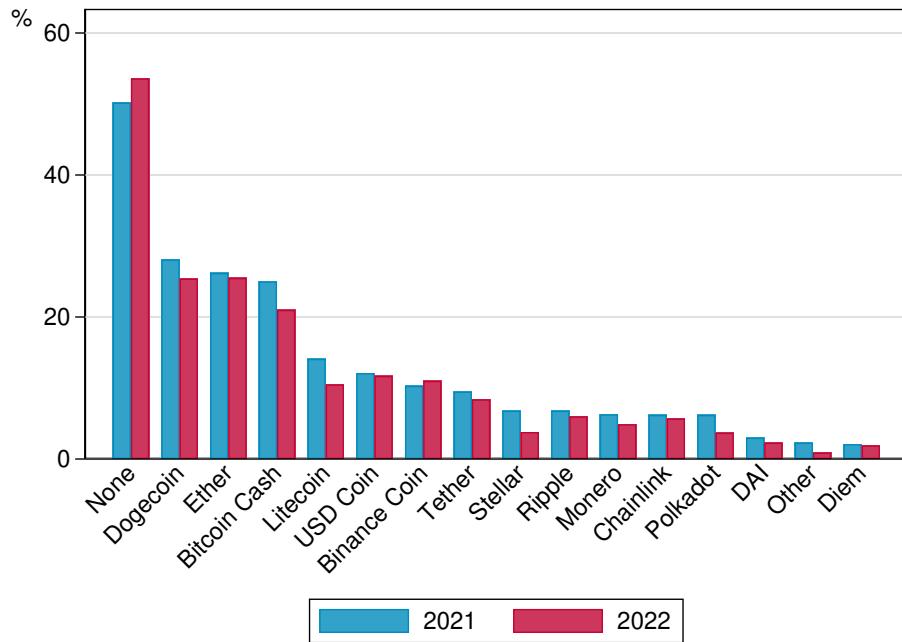
Chart 3: Distribution of Bitcoin literacy among Bitcoin owners and non-owners, 2021 and 2022



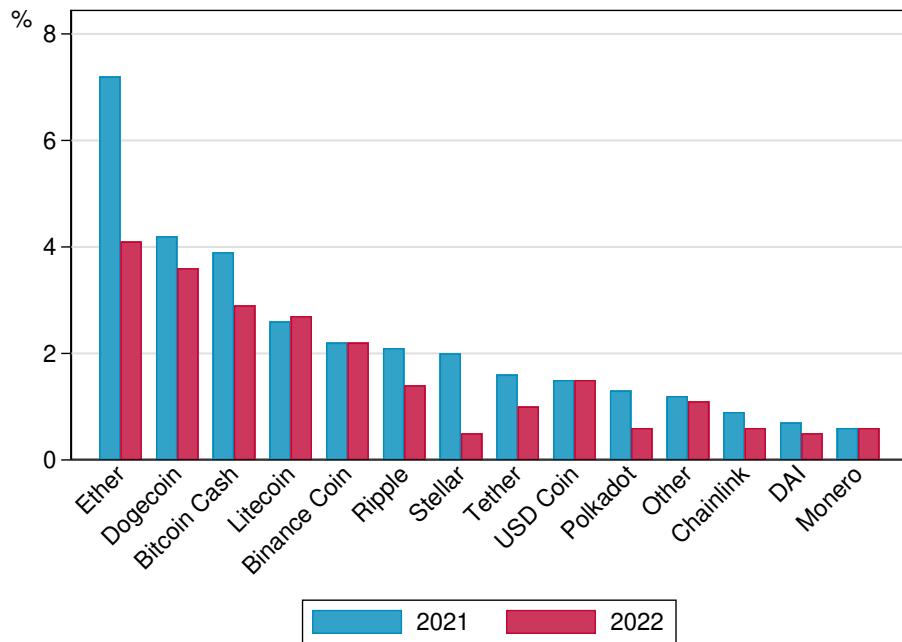
Note: This chart illustrates the distribution of Bitcoin knowledge among non-owners (left panel) and owners (right panel). The vertical bars correspond to the 2021 and 2022 surveys. The low, medium and high Bitcoin knowledge categories are constructed from the measure introduced by [Henry et al. \(2018a\)](#).

Chart 4: Awareness and ownership of alternative cryptoassets (altcoins), 2021 and 2022

a. Altcoin awareness, 2021 and 2022



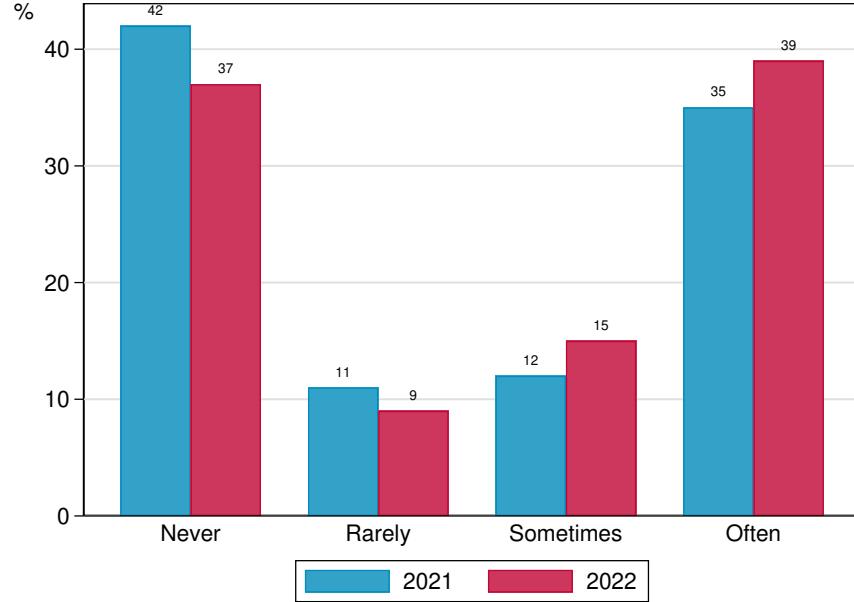
b. Altcoin ownership, 2021 and 2022



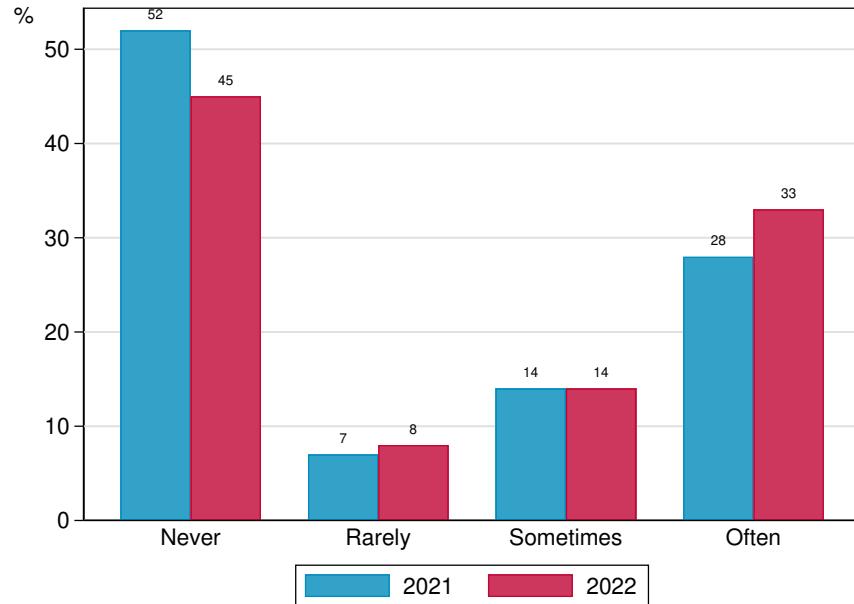
Note: The top panel reports the percentage of Canadians who reported being aware of alternative cryptoassets. The bottom panel shows the self-reported rates of ownership of each cryptoasset. Results from the 2021 BTCOS survey are represented by the blue bars and those from the 2022 survey are in red. Estimates are calculated using survey weights.

Chart 5: Frequency of Bitcoin use for transactions, 2021 and 2022

a. Frequency of Bitcoin use for buying goods and services, 2021 and 2022

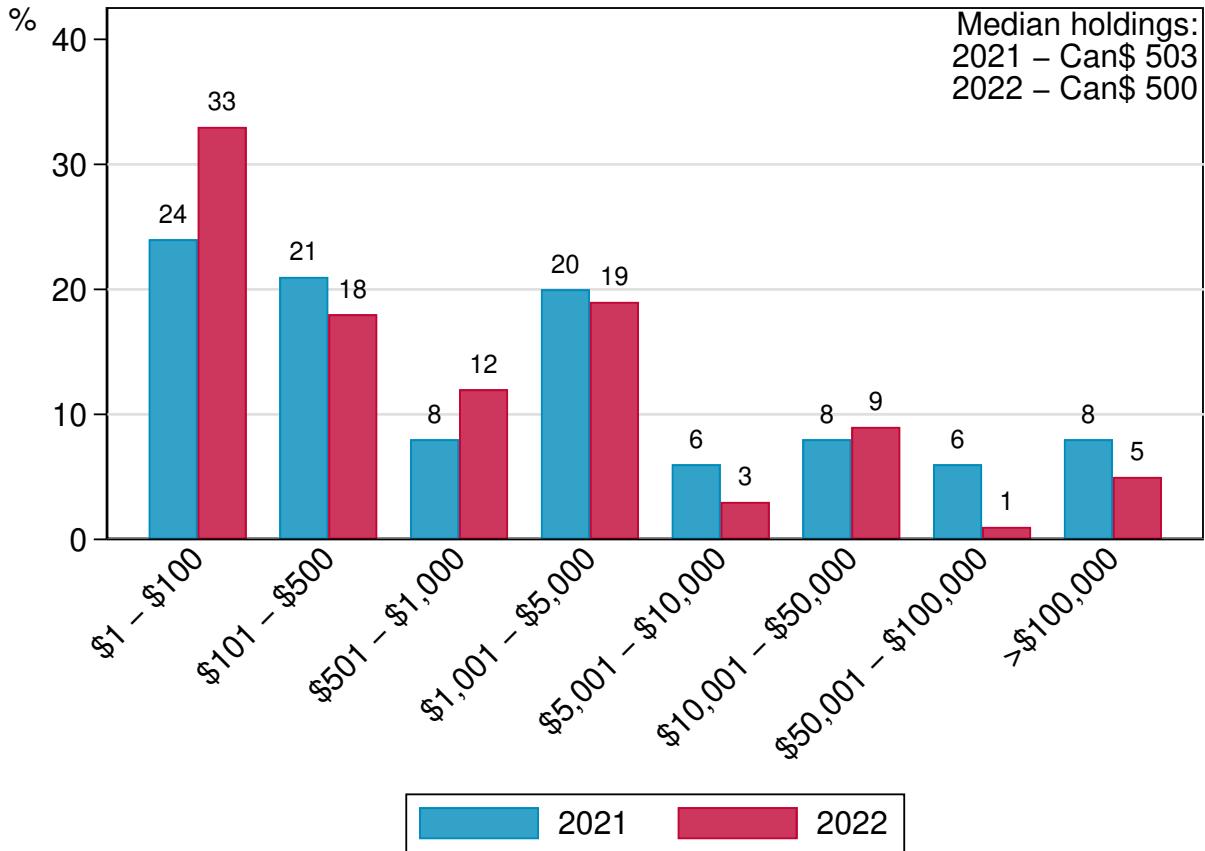


b. Frequency of Bitcoin use for person-to-person transfers, 2021 and 2022



Note: This figure illustrates Bitcoin owners' self-reported frequency of use of the cryptoasset. The top panel represents how frequently owners reported using Bitcoin to pay for goods and services, and the bottom panel shows the cryptoasset's use for sending money to other people. The bar colours correspond to the yearly waves of the BTCOS, with blue representing results from 2021 and red representing those of the 2022 wave. Categories are defined as follows: "Never" corresponds to the option "have never used Bitcoin for this purpose"; "Rarely" refers to less than once per year; "Sometimes" encompasses "once a year" to "a few times a year"; and "Often" refers to a frequency of at least once a month.

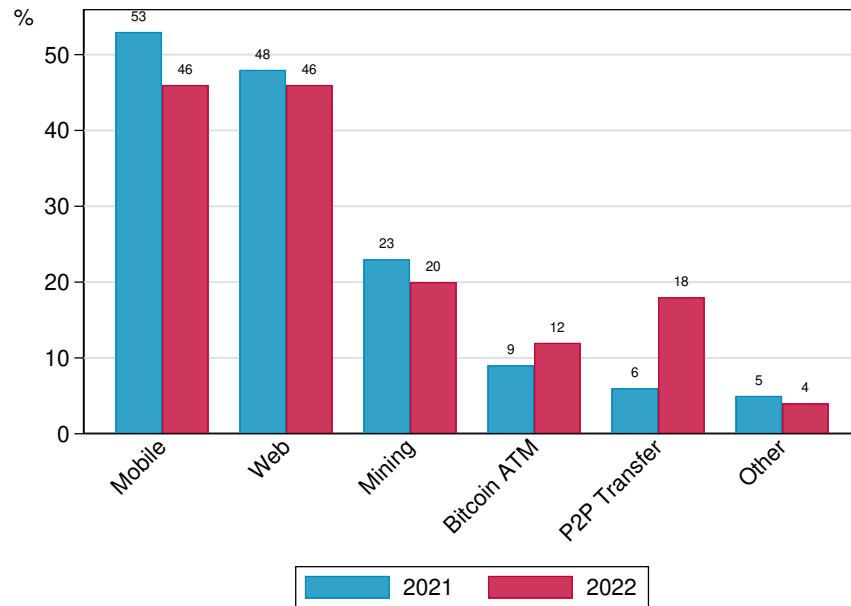
Chart 6: Self-reported value of Bitcoin holdings in Canadian dollars, 2021 and 2022



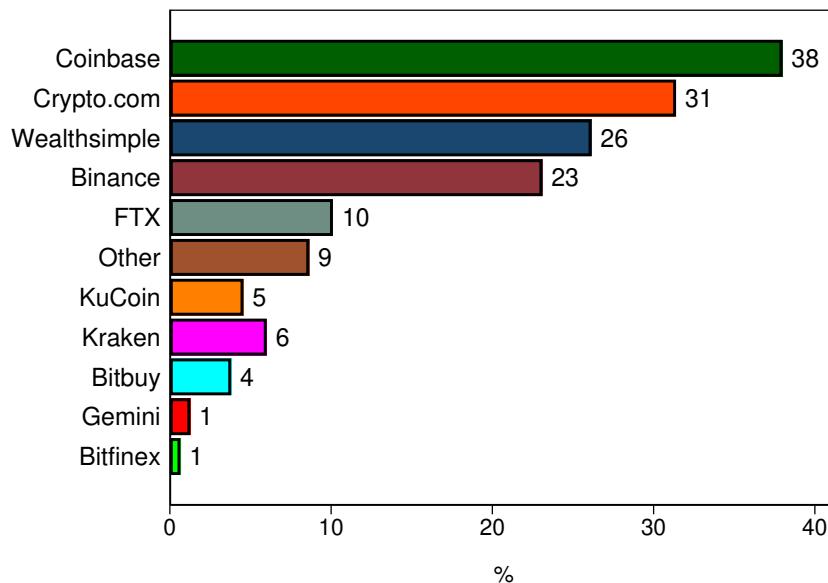
Note: Bitcoin owners were asked to report the value of their holdings on a continuous range denominated in Canadian dollars. This chart represents the percentage of owners with holdings that fall within the given subranges (denoted on the horizontal axis). Results from the 2021 version of the BTCOS are represented in blue, and those of 2022 are represented in red. All estimates are calculated using survey weights.

Chart 7: How Bitcoin owners in Canada acquire the cryptoasset, 2021 and 2022

a. Methods used to acquire Bitcoin, 2021 and 2022

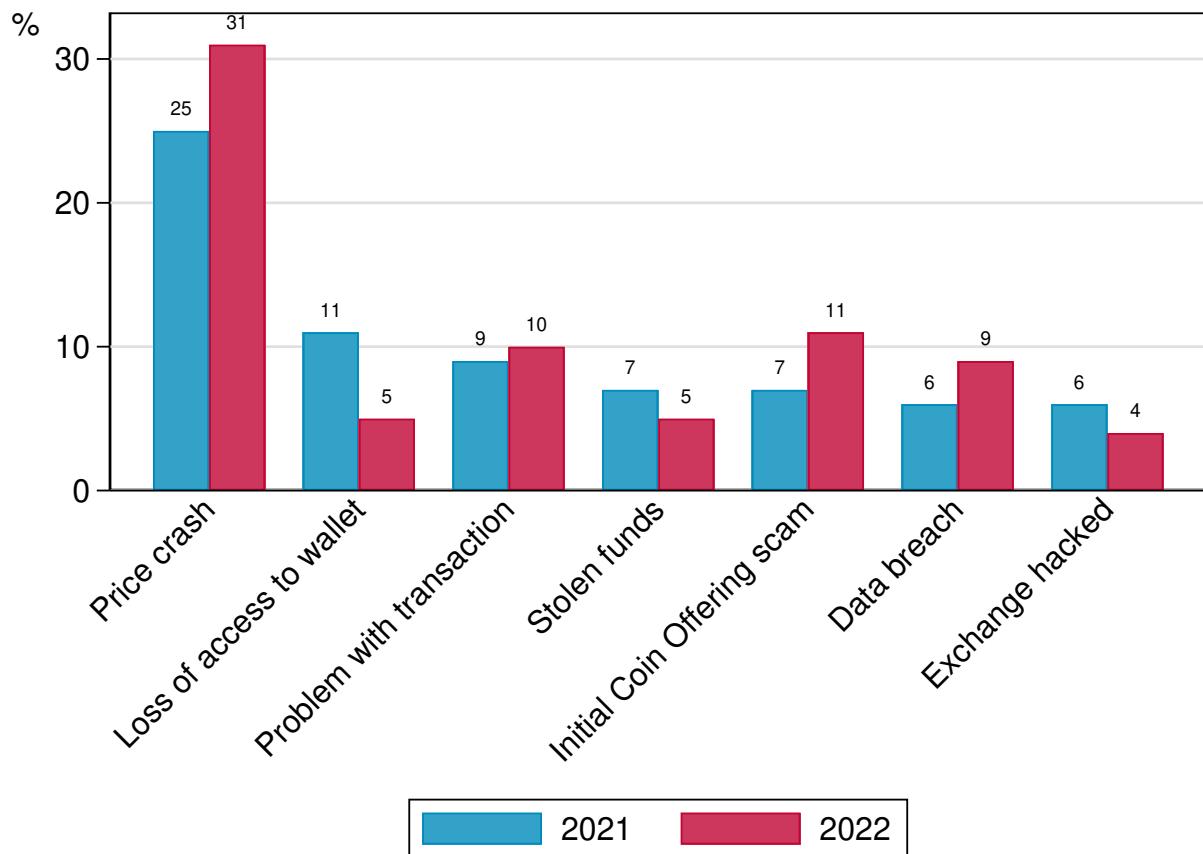


b. Specific exchanges used to acquire Bitcoin, 2022



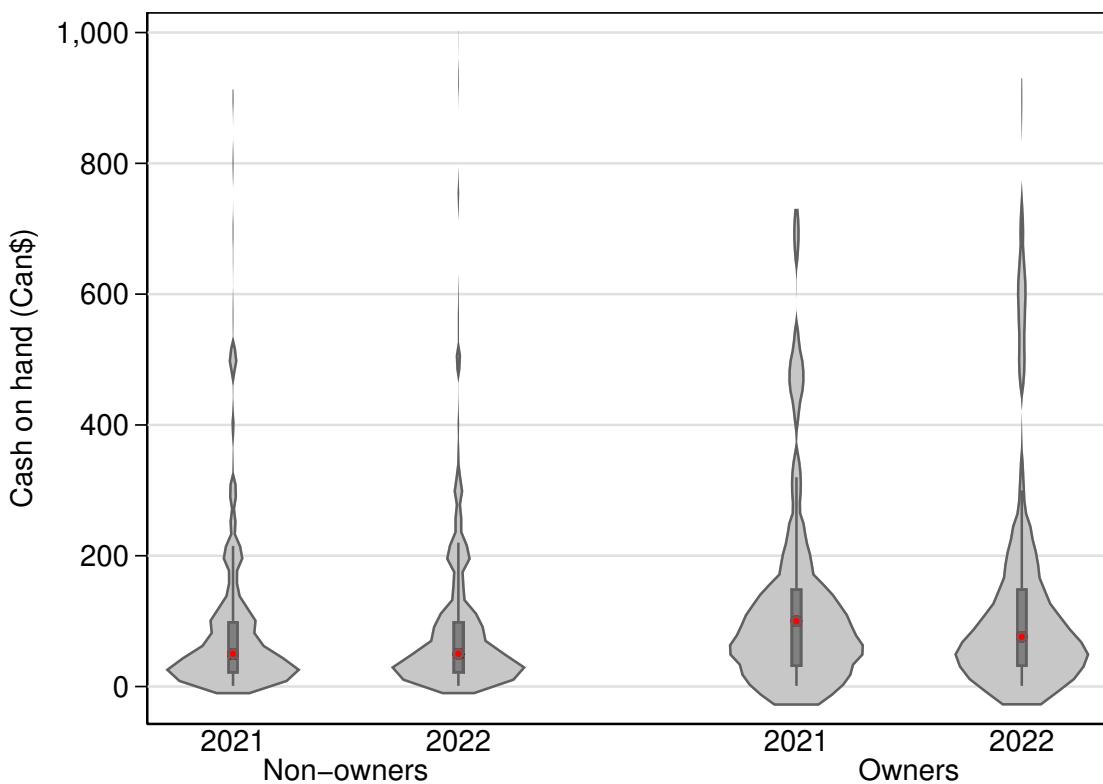
Note: This chart reports the percentages of Bitcoin owners who obtained Bitcoin using each indicated method. Respondents could select more than one method. “Mobile” refers to a mobile app and “Web” refers to a cryptocurrency exchange on a website. “P2P” is person-to-person. The 2022 version of the BTCOS introduced a question asking Bitcoin owners to select the names of the exchanges used to acquire Bitcoin from a list. The list includes major cryptoasset exchanges that have operated in Canada since Bitcoin’s introduction, and a text box if an exchange was not included. The results of this question are summarized in Chart 7b. All estimates are calculated using survey weights.

Chart 8: Incidents experienced by Bitcoin owners, 2021 and 2022



Note: This chart reports the percentage of Bitcoin owners who reported experiencing any of the listed incidents associated with participation in the cryptoasset market. Results from the 2021 BTCOS are represented in blue, and those of the 2022 version are represented in red.

Chart 9: Cash on hand of Bitcoin owners and non-owners, 2021 and 2022



Note: This chart is called a *violin plot* of cash on hand for Bitcoin owners and non-owners over 2021–22. Cash on hand is defined as the reported amount of cash in a respondent’s “wallet, purse or pocket.” For each year and ownership category, the violin plot shows the distribution of cash on hand estimated via kernel density (in grey); i.e., the vertical grey height indicates the amount of people in the sample holding the given amount of cash. The red dot indicates the median value of cash on hand.

# Appendix

## A 2022 BTCOS instrument

The 2022 BTCOS was completed by respondents entirely online through the web or on mobile devices. Below is a representation of the online survey instrument. Skip logic and other programming instructions are included between square brackets but were not shown to participants. Note that demographic questions and screening questions related to survey recruitment were also asked but are not shown here.

Chart A-1: 2022 BTCOS instrument

### Q1. Have you heard of Bitcoin?

Yes  
No

[IF 'YES' TO Q1, ASK Q1b, ELSE SKIP TO Q12]

Q1b. Please indicate whether the following statements about Bitcoin are true or false. If you are unsure, please select "don't know".

[COLUMNS]  
True  
False  
Don't know

[ROWS: RANDOMIZE]

The total supply of Bitcoin is fixed. [True]

All Bitcoin transactions are recorded on a distributed ledger that is publicly accessible. [True]

Bitcoin is backed by a government. [False]

### Q2. Do you currently have or own any Bitcoin?

Yes  
No

[ASK IF Q2 = 'Yes']

#### Q2a. When did you first obtain Bitcoin?

[PN: TWO DROP DOWN BOXES.  
DROPDOWN BOX FOR MONTH (JANUARY TO DECEMBER)  
DROPDOWN BOX FOR YEAR (SHOW 2022 to 2009)]

[IF 'YES' TO Q2, ASK Q3a to Q3c, ELSE SKIP TO Q4a]

#### Q3a. Please tell us your main reason for owning Bitcoin.

(Select one)

[RANDOMIZE LIST]

I am interested in new technologies

It is an investment

I use it to buy goods and services on the Internet in Canada/elsewhere

I use it to buy goods and services in physical stores in Canada/elsewhere

It allows me to make payments anonymously

I use it to make remittances or other international payments

It uses secure blockchain technology to prevent loss and fraud

I do not trust banks

I do not trust the government or the Canadian dollar

My friends own Bitcoin

It is a cost saving technology, e.g. it has lower transaction fees

[ANCHOR] Other (specify)

**Q3b. What is the value, in Canadian dollars, of the Bitcoin you currently own? (Please round off to the nearest dollar)**

\$ [NUMERIC BOX]  
Unsure/would rather not say

[IF Q3b=0, TERMINATE INTERVIEW]

**Q3c. How do you obtain Bitcoin?**

[RANDOMIZE LIST]

(Select all that apply)

- Cryptocurrency exchanges through a mobile app
- Cryptocurrency exchanges on a website
- Bitcoin Automated Teller Machines (ATMs)
- From a friend or family member
- Mining Bitcoin

[ANCHOR] Other, please specify [PROVIDE TEXT BOX FOR RESPONSE] [DO NOT CODE]

[ASK IF Q3c = “Cryptocurrency exchanges through a mobile app”, “Cryptocurrency exchanges on a website” OR “Other, please specify”]

**Q3d. Which cryptocurrency exchanges / companies do you use to buy Bitcoin? Please select those you currently use or have used in the past.**

(Select all that apply)

[RANDOMIZE LIST]

Binance

Coinbase

Crypto.com

Kraken

Wealthsimple

FTX

Kucoin

Bitfinex

Gemini

Bitbuy

Other, please specify [PROVIDE TEXT BOX FOR RESPONSE] [ANCHOR] [DO NOT CODE]

None of the above [EXCLUSIVE. ANCHOR]

[IF 'NO' TO Q2, ASK Q4a - Q4c, ELSE SKIP TO Q6a]

**Q4a. Have you ever owned Bitcoin in the past?**

Yes

No

[ASK BTC\_4a\_1 & BTC\_4a\_2 IF BTC\_4a = 'Yes']

[SHOW BTC\_4a\_1 & BTC\_4a\_2 ON SAME SCREEN]

[PN: BTC\_4a\_1 value EQUAL OR LESS THAN BTC\_4a\_2]

**Q BTC\_4a\_1. When did you first obtain Bitcoin?**

[PN: TWO DROPDOWN BOXES.

DROPDOWN BOX FOR MONTH (JANUARY TO DECEMBER)

DROPDOWN BOX FOR YEAR (SHOW 2022 to 2009)]

**Q BTC\_4a\_2. When did you sell or stop using Bitcoin?**

[PN: TWO DROPDOWN BOXES.

DROPDOWN BOX FOR MONTH (JANUARY TO DECEMBER)

DROPDOWN BOX FOR YEAR (SHOW 2022 to 2009)]

**Q4b. Please tell us your main reason for [PIPE IN "not" if Q4a =no; PIPE IN "no longer" if Q4a = yes] owning any Bitcoin.**

[RANDOMIZE LIST]

A price crash caused my Bitcoin to lose substantial value [SHOW IF Q4A = 'Yes'; ANCHOR]

I lost access to my personal cryptocurrency wallet [SHOW IF Q4A = 'Yes'; ANCHOR]

I cashed out my Bitcoin for a profit [SHOW IF Q4A = 'Yes'; ANCHOR]

I do not understand/know enough about the technology

It is not widely accepted as a method of payment

My current payment methods meet all my needs

The value of Bitcoin varies too much

It is not easy to acquire/use

I do not trust a private currency that is not backed by the government

I am concerned about cyber theft

I am concerned about lack of oversight from regulatory bodies

I use alternative digital currencies instead (e.g. Ethereum, Tether, Litecoin, etc.)

I do not believe the Bitcoin system will survive in the future

[ANCHOR] Other (specify)

[ASK ONLY IF Q4A = 'Yes']

**Q4c. How did you previously obtain Bitcoin?**

[RANDOMIZE LIST]

(Select all that apply)

- Cryptocurrency exchanges through a mobile app
- Cryptocurrency exchanges on a website
- Bitcoin Automated Teller Machines (ATMs)
- From a friend or family member
- Mining Bitcoin

[ANCHOR] Other, please specify [PROVIDE TEXT BOX FOR RESPONSE] [DO NOT CODE]

[ASK IF Q4c = "Cryptocurrency exchanges through a mobile app", "Cryptocurrency exchanges on a website" OR "Other, please specify"]

**Q4d. Which cryptocurrency exchanges / companies did you use to buy Bitcoin?**

(Select all that apply)

[RANDOMIZE LIST]

Binance

Coinbase

Crypto.com

Kraken

Wealthsimple

FTX

Kucoin

Bitfinex

Gemini

Bitbuy

Other, please specify [PROVIDE TEXT BOX FOR RESPONSE] [ANCHOR] [DO NOT CODE]

None of the above [EXCLUSIVE. ANCHOR]

[ASK Q6a IF 'YES' TO Q1]

**Q6a. How likely do you think it is that the Bitcoin system will survive for the next 15 years?** Please use the sliding scale where 0 means that the system will certainly fail and 100 means the system will certainly survive.

[INSERT SLIDING SCALE WITH WORD ANCHORS 0=Will certainly fail, 50=Unsure, 100=Will certainly survive] [DO NOT PUT THE NUMBER 0, 50, OR 100 WITHIN THE WORD ANCHOR BOX]

[ASK Q6b IF 'YES' TO Q1]

**Q6b. What percentage of Canadians do you think will be using Bitcoin 15 years from now?** Please use the sliding scale where 0 means no Canadians will be using Bitcoin and 100 means all Canadians will be using Bitcoin. [INSERT SLIDING SCALE WITH WORD ANCHORS] [DO NOT PUT THE NUMBER 0 OR 100 WITHIN THE WORD ANCHOR BOX]

[ASK Q7a – Q7c IF Q1=YES, ELSE SKIP TO Q12]

**Q7a. What is the current price of Bitcoin?**

Please provide your best estimate in Canadian dollars. Please round to the nearest dollar.  
[INSERT NUMERIC BOX]

1 BTC = \$ \_\_\_\_\_ CAD

[SHOW Q7b AND Q7c ON SAME SCREEN]

**Q7b. The price of one Bitcoin is around \$[INSERT RELEVANT PRICE EACH MORNING WHILE THE SURVEY IS IN FIELD] Canadian, as of this morning. In one month, what do you expect the price of Bitcoin to be?**

Please provide your best estimate in Canadian dollars. Please round to the nearest dollar.  
[INSERT NUMERIC BOX]

1 BTC = \$ \_\_\_\_\_ CAD

**Q7c. In one year, what do you expect the price of Bitcoin to be?**

Please provide your best estimate in Canadian dollars. Please round to the nearest dollar.  
[INSERT NUMERIC BOX]

1 BTC = \$ \_\_\_\_\_ CAD

**Q8a. Please indicate whether you have heard of any of the following digital currencies.**

(Select all that apply) [RANDOMIZE LIST]

- Ethereum (ETH)
- Bitcoin Cash (BCH)
- Litecoin (LTC)
- Tether (USDT)
- USD Coin (USDC)
- DAI (formerly known as Sai)
- Binance Coin (BNB)
- XRP (RIPPLE)
- Diem (formerly known as Libra)
- Polkadot (DOT)
- Dogecoin (DOGE)
- Chainlink (LINK)
- Stellar (XLM)
- Monero (XMR)

[ANCHOR] Other digital currency (please specify) [PROVIDE TEXT BOX FOR RESPONSE] [DO NOT CODE]

[ANCHOR] No, I have not heard of any other digital currencies

[PIPE IN RESPONSES FROM Q8a; SKIP Q8b IF THEY HAVE NOT HEARD OF ANY OTHER DIGITAL CURRENCIES]

**Q8b. Do you currently own any of the following digital currencies?**

(Please check all that apply) [RANDOMIZE LIST]

[DISPLAY THOSE SELECTED IN Q8a]

[ANCHOR] Other (please specify) [PROVIDE TEXT BOX FOR RESPONSE] [DO NOT CODE]

[ANCHOR] No, I do not hold any other digital currencies

[ASK IF Q8b ≠ “No, I do not hold any other digital currencies”]

**Q8c. Which cryptocurrency exchanges / companies do you use to buy other digital currencies? Please select those you currently use or have used in the past.**

(Select all that apply)

[RANDOMIZE LIST]

Binance

Coinbase

Crypto.com

Kraken

Wealthsimple

FTX

Kucoin

Bitfinex

Gemini

Bitbuy

Other, please specify [PROVIDE TEXT BOX FOR RESPONSE] [ANCHOR] [DO NOT CODE]

None of the above [EXCLUSIVE. ANCHOR]

[ASK Q9 IF Q2=YES OR Q8b = ‘Tether’, ELSE SKIP TO INSTRUCTIONS ABOVE Q11]

**Q9. Approximately how often do you use the following to pay for goods and services?**

(Please select the most appropriate response)

[ROWS]

Once a week or more

A few times a month

Once a month

A few times a year

Once a year

Less than once a year

Never

[COLUMNS; PIPE IN BASED ON Q2 AND Q8b]

Bitcoin

Tether

[ASK Q9a if Q9= “Once a week or more”, “A few times a month”, “Once a month” OR “A few times a year”]

Q9a. What was the name of the last business or website where you used the following to pay for a good or service?

[ROWS]

[TEXT BOX]

Don't know / prefer not to say

[COLUMNS; PIPE IN BASED ON Q2 AND Q8b]

Bitcoin

Tether

[ASK Q10 IF Q2=YES, ELSE SKIP TO INSTRUCTIONS ABOVE Q11]

Q10. Approximately how often do you use Bitcoin to send money to other people?

(Please select the most appropriate response)

- Once a week or more
- A few times a month
- Once a month
- A few times a year
- Once a year
- Less than once a year
- Never

[ASK Q11 IF Q2=YES OR Q4a=YES OR (Q8b was asked and ≠ “No, I do not hold any other digital currencies”), ALL ELSE SKIP TO Q12]

Q11. Have any of the following incidents happened to you?

(Select all that apply) [RANDOMIZE LIST]

- I lost access to my personal cryptocurrency wallet
- The cryptocurrency exchange holding my funds was hacked
- I experienced problems with a purchase made using cryptocurrencies
- I participated in an Initial Coin Offering and it turned out to be a scam
- A price crash caused my cryptocurrency to lose substantial value
- My personal data held by a cryptocurrency exchange was compromised
- The cryptocurrency exchange I was using stole my funds
- None of the above [EXCLUSIVE]

[ASK Q\_Network\_a and Q\_Network\_b IF Q1 = YES]

**Q\_Network\_a. How many people do you know who currently own Bitcoin?**

Please include:

- family members, friends, acquaintances and even those individuals you may have communicated with anonymously via social media or other channels
- only people who currently live in Canada and are 18 years of age or older

\_\_\_\_\_ # of people [NUMERIC RANGE 1 to 99]

I do not know anyone who currently owns Bitcoin [EXCLUSIVE]

**Q\_Network\_b. What sources do you use to access information about cryptocurrencies?**

(Select all that apply)

[MULTI-SELECT. RANDOMIZE LIST]

Traditional media (TV, newspaper, radio)

Social media (e.g. Facebook, Twitter, Instagram, TikTok, LinkedIn)

Friends and family

Online news, including blogs and forums (e.g. Reddit)

YouTube

Websites (e.g. Coin Bureau, Coin Desk, The Block)

Existing companies/exchanges offering cryptocurrencies (e.g. Wealthsimple, Coinbase)

Other (please specify) [TEXTBOX] [ANCHOR]

None [ANCHOR. EXCLUSIVE]

[ASK ALL; SHOW Q12a and Q12b on same screen]

**Q12a. Thinking now about regular Canadian currency, how much cash do you currently have in your purse, wallet, or pockets? (Please round to the nearest dollar)**

\$\_\_\_\_\_

I prefer not to not answer [EXCLUSIVE]

**Q12b. How much cash do you currently have outside of your purse, wallet, or pockets, for example in your car, house or another safe place? (Please round to the nearest dollar)**

\$\_\_\_\_\_

I prefer not to answer [EXCLUSIVE]

**Q13. Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think would have left in the account if you left the money to grow?**

- More than \$102
- Exactly \$102
- Less than \$102
- Don't know

**Q14. Imagine the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with this money in this account?**

- More than today
- Exactly the same
- Less than today
- Don't know

**Q15. Please indicate whether or not this statement is true or false: "Buying a single company's stock usually provides a safer return than a mutual fund of stocks".**

- True
- False
- Don't know

**Q16. Switching topics, about how long do you think you will live?**

I think I will live until I am...

\_\_\_ years old [RANGE >CURRENT AGE TO 150]

## B Content of the Bank of Canada's cryptoasset-related surveys

Table B-1: Cryptoasset content covered by the Bitcoin Omnibus Survey and 2022 Cash Pulse Survey

	BTCOS					CPS	BTCOS
	2016	2017	2018	2019	2021	2022 (Aug.)	2022 (Dec.)
Awareness, ownership and motivation	x	x	x	x	x	x	x
Use for payments and P2P transfers	x	x	x	x	x		x
Bitcoin holdings (in Bitcoin)	x	x					x
Bitcoin knowledge		x	x	x	x	x	x
Cash holdings		x	x	x	x	x	x
Beliefs about the future		x	x	x	x		x
Price expectations (next month)		x	x	x	x		x
Financial literacy			x	x	x	x	x
Bitcoin holdings (in Can\$)			x	x	x		x
Incidents and method of obtaining				x	x		x
Awareness and ownership of altcoins					x		x
Price expectations (next year)					x		x
Duration of BTC holdings (year)					x	x	
Duration of BTC holdings (month and year)							x
Exchanges used							x
Sources of information							x
Size of Bitcoin network							x

Note: This table shows the topics covered by the Bitcoin Omnibus Survey (BTCOS) since its inception in 2016. The 2022 Cash Pulse Survey (CPS) borrowed questions from the 2021 BTCOS to allow for additional monitoring of the cryptoasset space in 2022. “Awareness, ownership and motivation” includes measuring current and past ownership of Bitcoin and reasons for owning or not owning Bitcoin. ‘P2P’ is person-to-person.

## C Crypto and financial literacy

In this Appendix, we document how the crypto and financial literacy categories of high, medium and low are constructed. For both topics, respondents are asked a set of three knowledge-testing questions that contain a single correct answer and the option to respond “don’t know.”

Financial literacy questions are taken from the “Big Three” of [Lusardi and Mitchell \(2014\)](#) (Table C-1). We compute a financial literacy score as the number of correct answers minus the number of incorrect answers (“don’t know” responses do not contribute to the score). Financial literacy is then classified as *high* (score= 3), *medium* (score= 1, 2) or *low* (score<= 0). Crypto literacy categories are constructed in a similar way using the Bitcoin knowledge questions (Table C-2).

Response distributions for each financial literacy question from the 2021 and 2022 Bitcoin Omnibus Survey (BTCOS) and the August 2022 Cash Pulse Survey (CPS) are shown in Table C-3 (raw unweighted counts) and in Table C-4 (weighted percentages).

Table C-1: Financial literacy questions

Question	Response options
Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have left in the account if you left the money to grow?	<b>More than \$102</b> Exactly \$102 Less than \$102 Don't know
Imagine the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with this money in this account?	More than today Exactly the same <b>Less than today</b> Don't know
Please tell me whether or not this statement is true or false: Buying a single company’s stock usually provides a safer return than a mutual fund of stocks.	True <b>False</b> Don't know

Note: This table shows the three financial literacy questions that were asked in the 2018–21 BTCOS. Questions are taken from the “Big Three” of [Lusardi and Mitchell \(2014\)](#). Correct answers are in bold.

Table C-2: Bitcoin knowledge statements

Statements	Response options
The total supply of Bitcoin is fixed.	<b>True</b> False Don't know
Bitcoin is backed by a government.	<b>True</b> <b>False</b> Don't know
All Bitcoin transactions are recorded on a distributed ledger that is publically accessible.	<b>True</b> False Don't know

Note: This table shows the three statements used to test Bitcoin knowledge in the 2017–21 BTCOS. Respondents are asked to answer whether they think each statement is true or false; alternatively, they can answer “don’t know.” Correct answers are shown in bold.

Table C-3: Number of correct, incorrect and ”don’t know” responses to financial literacy questions

	2021 BTCOS			2022 CPS - August			2022 BTCOS - December		
	Owners	Non-owners	Overall	Owners	Non-owners	Overall	Owners	Non-owners	Overall
<b>Question 1</b>									
Correct	180	1335	1515	212	2413	2625	153	1408	1561
Incorrect	36	200	236	41	162	203	40	178	218
Don't know	10	213	223	3	171	174	7	208	215
<b>Question 2</b>									
Correct	146	1094	1240	155	1962	2117	123	1264	1387
Incorrect	66	351	417	90	487	577	67	243	310
Don't know	14	303	317	11	297	308	10	287	297
<b>Question 3</b>									
Correct	135	965	1100	161	1627	1788	128	1095	1223
Incorrect	49	150	199	71	220	291	45	105	150
Don't know	42	633	675	24	899	923	27	594	621

Note: This table reports the number of respondents (unweighted) who answered each financial literacy question correctly and incorrectly, as well as the number who answered “don’t know,” broken down by Bitcoin ownership. Bitcoin owners are those who answered “yes” to the question, “Do you currently have or own Bitcoin?” Non-owners are those who answered “no.” BTCOS refers to the Bitcoin Omnibus Survey, while CPS refers to the Cash Pulse Survey. The sample sizes are 1,974 in 2021, 3,002 in August 2022 and 1,994 in December 2022.

**Table C-4: Shares of correct, incorrect and "don't know" responses to financial literacy questions**

	2021 BTCOS			2022 CPS - August			2022 BTCOS - December		
	Owners	Non-owners	Overall	Owners	Non-owners	Overall	Owners	Non-owners	Overall
<b>Question 1</b>									
Correct	77.2	74.5	74.8	77.1	86.3	85.5	71.3	75.7	75.3
Incorrect	18.7	11.5	12.5	21.3	6.3	7.7	24.8	10.9	12.3
Don't know	4.2	14.0	12.7	1.6	7.4	6.9	3.9	13.4	12.4
<b>Question 2</b>									
Correct	57.1	57.3	57.2	54.0	67.9	66.6	58.0	65.7	64.9
Incorrect	36.1	23.2	24.9	41.0	19.1	21.1	35.9	16.2	18.2
Don't know	6.7	19.6	17.9	4.9	12.9	12.2	6.1	18.1	16.9
<b>Question 3</b>									
Correct	55.5	51.6	52.1	59.0	55.2	55.5	59.7	55.7	56.1
Incorrect	23.9	9.9	11.7	31.0	8.6	10.6	26.7	7.2	9.2
Don't know	20.6	38.5	36.2	10.0	36.3	33.9	13.5	37.0	34.6

Note: This table reports the share of respondents (weighted) who answered each financial literacy question correctly and incorrectly, as well as the number who answered "don't know," broken down by Bitcoin ownership. Bitcoin owners are those who answered "yes" to the question, "Do you currently have or own Bitcoin?" Non-owners are those who answered "no." BTCOS refers to the Bitcoin Omnibus Survey, while CPS refers to the Cash Pulse Survey. The sample sizes are 1,974 in 2021, 3,002 in August, 2022 and 1,994 in December 2022.

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## References

- Balutel, D., W. Engert, C. S. Henry, K. P. Huynh, D. Rusu and M. C. Voia. Forthcoming a. "Gender Differences in Digital and Financial Literacy of Cryptoasset Owners?"
- Balutel, D., W. Engert, C. S. Henry, K. P. Huynh and M. C. Voia. 2022a. "[Five Things We Learned About Canadian Bitcoin Owners in 2021](#)." Bank of Canada Financial System Hub.
- Balutel, D., W. Engert, C. S. Henry, K. P. Huynh and M. C. Voia. 2022b. "Private Digital Cryptoassets as Investment? Bitcoin Ownership and Use in Canada, 2016–2021." Bank of Canada Staff Working Paper No. 2022-44.
- Balutel, D., M.-H. Felt, G. Nicholls and M. C. Voia. 2022c. "Bitcoin Awareness, Ownership and Use: 2016–20." Bank of Canada Staff Discussion Paper No. 2022-10.
- Balutel, D., C. S. Henry, K. P. Huynh, and M. C. Voia. 2022d. "Cash in the Pocket, Cash in the Cloud: Cash Holdings of Bitcoin Owners." Bank of Canada Staff Working Paper No. 2022-26.
- Balutel, D., C. S. Henry, J. Vasquez, and M. C. Voia. Forthcoming b. "The Role of Beliefs on Entry and Exit in the Bitcoin Market."
- Bank of Canada. 2022a. "[Bank of Canada Increases Policy Interest Rate](#)." Press release, Ottawa, Ontario, March 2.
- Bank of Canada. 2022b. *Financial System Review*.
- Canadian Securities Administrators. 2022a. "[Canadian Securities Regulators Expect Commitments From Crypto Trading Platforms Pursuing Registration](#)." Press release, Toronto, Ontario, August 15.
- Canadian Securities Administrators. 2022b. "[CSA Provides Update to Crypto Trading Platforms Operating in Canada](#)." Press release, Toronto, Ontario, December 12.
- Chen, H., W. Engert, M.-H. Felt, K. P. Huynh, G. Nicholls, D. O'Habib and J. Zhu. 2021a. "Cash and COVID-19: The Impact of the Second Wave in Canada." Bank of Canada Staff Discussion Paper No. 2021-12.
- Chen, H., W. Engert, M.-H. Felt, K. P. Huynh, D. O'Habib, J. Wu and J. Zhu. 2022. "Cash and COVID-19: What Happened in 2021." Bank of Canada Staff Discussion Paper No. 2022-8.

- Chen, H., W. Engert, K. P. Huynh, G. Nicholls, M. Nicholson and J. Zhu. 2020. "Cash and COVID-19: The Impact of the Pandemic on the Demand for and Use of Cash." Bank of Canada Staff Discussion Paper No. 2020-6.
- Chen, H., W. Engert, K. P. Huynh, G. Nicholls and J. Zhu. 2021b. "Cash and COVID-19: The Effects of Lifting Containment Measures on Cash Demand and Use." Bank of Canada Staff Discussion Paper No. 2021-3.
- Coinbase. 2023. "[Coinbase Bitcoin \[CBBTCUSD\]](#)." Retrieved from FRED, Federal Reserve Bank of St. Louis, on April 13.
- Deville, J., C. Sarndal and O. Sautory. 1993. "Generalized Raking Procedures in Survey Sampling." *Journal of the American Statistical Association* 88: 1013–1020.
- Halaburda, H., G. Haerlinger, J. Gans and N. Gandal. 2022. "The Microeconomics of Cryptocurrencies." *Journal of Economic Literature* 60: 971–1013.
- Henry, C. S., K. P. Huynh and G. Nicholls. 2017. "Bitcoin Awareness and Usage in Canada." Bank of Canada Staff Working Paper No. 2017-56.
- Henry, C. S., K. P. Huynh and G. Nicholls. 2018a. "Bitcoin Awareness and Usage in Canada." *Journal of Digital Banking* 2: 311–337.
- Henry, C. S., K. P. Huynh and G. Nicholls. 2018b. "Bitcoin Awareness and Usage in Canada: An Update." Bank of Canada Staff Analytical Note No. 2018-23.
- Henry, C. S., K. P. Huynh, G. Nicholls and M. Nicholson. 2019. "2018 Bitcoin Omnibus Survey: Awareness and Usage." Bank of Canada Staff Discussion Paper No. 2019-10.
- Henry, C. S., M. Shimoda and J. Zhu. 2022. "2021 Methods-of-Payment Survey Report." Bank of Canada Staff Discussion Paper No. 2022-23.
- Lane, T. 2020. "[Money and Payments in the Digital Age](#)." Remarks at the CFA Montreal FinTech RDV 2020, Montreal, Quebec, February 25.
- Lane, T. 2021. "[Payments Innovation Beyond the Pandemic](#)." Remarks delivered virtually to the Institute for Data Valorisation, Montreal, Quebec, February 10.
- Liu, J., I. Makarov and A. Schoar. 2023. "Anatomy of a Run: The Terra Luna Crash." National Bureau of Economic Research Working Paper No. 31160.
- Lusardi, A. and O. Mitchell. 2014. "The Economic Importance of Financial Literacy: Theory and Evidence." *Journal of Economic Literature* 52: 5–44.
- Organisation for Economic Co-operation and Development. 2023. "[Consumer Price Indices \(CPIs\) - Complete database](#)." Accessed April 18.
- Statistics Canada. 2023. "[Table 18-10-0004-01 Consumer Price Index, Monthly, Not Seasonally Adjusted](#)." Accessed April 18.

US Securities and Exchange Commission. 2022a. "[SEC Charges Former Coinbase Manager, Two Others in Crypto Asset Insider Trading Action.](#)" Press release, Washington, D.C., July 21.

US Securities and Exchange Commission. 2022b. "[SEC Charges Samuel Bankman-Fried with Defrauding Investors in Crypto Asset Trading Platform FTX.](#)" Press release, Washington, D.C., December 13.

US Securities and Exchange Commission. 2022c. "[SEC Nearly Doubles Size of Enforcement's Crypto Assets and Cyber Unit.](#)" Press Release, Washington, D.C., May 3.