Benchmarking Bitcoin Adoption in Canada: Awareness, Ownership and Usage in 2020: Open Review

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Reviewers: Reviewer A, Reviewer B

Abstract. The final version of the paper "Benchmarking Bitcoin Adoption in Canada" can be found in Ledger Vol. 5 (2020) 74-88, DOI 10.5915/LEDGER.2020.206. There were two reviewers involved in the review process, neither of whom has requested to waive their anonymity at present, and are thus listed as Reviewers A and B. After initial review by Reviewers A and B, the submission was returned to the authors with feedback for revision (1A). The authors responded (1B) and resubmitted their work. After subsequent evaluation by Reviewer B, the decision was made that the revisions made to this point were sufficient to address any concerns, thus ending the peer review process. Author responses have been lightly edited for reader clarity.

1A. Review

Reviewer A

Does this paper represent a novel contribution to cryptocurrency or blockchain scholarship?

Yes

If you answered "yes" to the previous question, in one sentence, describe in your own words the novel contribution made by this paper:

This paper establishes a unique result that a negative association between bitcoin ownership

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and financial literacy based on the standard measure of financial literacy used by economists.

Is the research framed within its scholarly context and does the paper cite appropriate prior works?

Yes

Please assess the article's level of academic rigor.

Excellent (terms are well defined, proofs/derivations are included for theoretical work, statistical tests are included for empirical studies, etc.)

Please assess the article's quality of presentation.

Excellent (the motivation for the work is clear, the prose is fluid and correct grammar is used, the main ideas are communicated concisely, and highly-technical details are relegated to appendixes).

How does the quality of this paper compare to other papers in this field?

Top 5%

Please provide your free-form review for the author in this section.

Summary:

This draft first reports the trends of Bitcoin awareness, ownership, and the main reason for owning Bitcoin from 2016 to 2018 in Canada. This draft then points out that the ownership decreases with age, location, and the level of financial literacy (based on the standard measure of financial literacy used by economists) but increases with education and income. The draft ends by proposing an interesting puzzle: Bitcoin owners held more cash in their pockets at the median, but they were more likely to say they had already stopped using cash.

Comments:

The authors did a very careful empirical analysis to obtain very interesting results.
They cite relevant articles, and their contribution to the literature is clearly explained.
Regarding the puzzle on the Bitcoin owners' cash holdings and planned future cash use, they are preparing another project to explore this puzzle by studying the Bitcoin owners' motivation for cash holdings. The reviewer is eager to see their new paper on this point.

Reviewer B

Does this paper represent a novel contribution to cryptocurrency or blockchain scholarship?

Yes

If you answered "yes" to the previous question, in one sentence, describe in your own words the novel contribution made by this paper:

The paper presents survey evidence on the dissemination of Bitcoin among the Canadian public - the survey is of very high quality

Is the research framed within its scholarly context and does the paper cite appropriate prior works?

Yes

Please assess the article's level of academic rigor.

Excellent (terms are well defined, proofs/derivations are included for theoretical work, statistical tests are included for empirical studies, etc.)

Please assess the article's quality of presentation.

Excellent (the motivation for the work is clear, the prose is fluid and correct grammar is used, the main ideas are communicated concisely, and highly-technical details are relegated to appendixes).

How does the quality of this paper compare to other papers in this field?

Top 5%

Please provide your free-form review for the author in this section.

Report:

Benchmarking Bitcoin Adoption in Canada: Awareness, Ownership and Usage in 2018

The paper uses survey data to analyze Bitcoin awareness, adoption and usage in Canada. Specifically, the results refer to an update of two previous surveys. Results show that 5% of Canadians own Bitcoin. The paper studies the sociodemographics of ownership as well as the relationship with financial literacy. In this respect, the paper finds that ownership is associated with lower financial literacy.

Assessment:

The paper presents a concise overview of the important results. As such it is informative and interesting. Generally, it is well written and clean. The empirical work is conducted in a competent way. The results are policy relevant. Overall, I view the paper very positively.

I have three smaller comments. None of these comments is critical, but nevertheless it would be great if authors could address them: (i) on the results regarding financial literacy, (ii) on the results regarding cash holdings and (iii) on the finding that speculation remains the main reason for ownership

Major comments:

1) Results regarding financial literacy. One interesting aspect of this paper is that it relates findings on financial literacy of survey respondents to ownership of Bitcoin. The result is that ownership goes along with lower financial literacy. I have to admit that I am surprised by this result, and frankly, also have difficulties believing this result.

While the analysis based on descriptive statistics could be misleading because you are comparing persons with vastly different socio-demographics this argument does not hold in the regression context. Table 5 is showing that the effect of financial literacy also holds when controlling for sociodemographic characteristics.

However, the results of Table 5 reveal that the close association of ownership and financial literacy can be mainly traced to one component of financial literacy – namely the risk question. This question asks whether it is riskier to hold a single company stock or to hold a mutual fund of stocks.

I think there are two reasons why this result could be spurious:

First, lack of relevance of this question to some respondents. For example, unemployed persons might neither possess stocks or funds. They might provide an answer but the answer is irrelevant for their behavior.

Second, differential risk attitudes of owners versus non-owners. Some evidence suggests that owners of Bitcoin might be much more risk tolerant. Given this, the risk difference between a single stock or a mutual fund does not matter for their behavior. With respect to this point, I wonder whether the survey contains information on ownership of risky assets. If authors controlled for the asset structure of survey respondents, it would become more clear whether it is financial literacy or risk attitudes which is driving this result – one suspicion is that it is the latter factor which is more important.

2) Cash holdings: It is interesting that the paper finds that owners hold more cash, on average. At the same time, a higher share plans to go cashless within the coming years. The paper assigns this puzzle to differences in the interpretation of what cashless means to survey respondents (no use of cash for transactions vs no use of cash for transactions and hoarding). I consider this explanation plausible, given that Bitcoin was designed to provide an alternative means of transaction. This would imply that Bitcoin owners hold cash as a store of value (because some of them are skeptical about financial institutions). It would be great if authors could present supportive evidence for this (plausible) claim, e.g. evidence on the portfolio structure of owners versus non-owners or their view of financial institutions.

3) The paper states that speculation remains the key reason for ownership (e.g. in the abstract). While I agree to a large extent, I think that the empirical evidence in favor of this claim is not entirely convincing. Specifically, it relies on Table 6 where it is shown that 40% of owners provide the answer "store of value (investment)". My feeling is that the phrase "store of value" does not fully encompass speculation whose sole aim is to make profits (for example, German government bonds could be held as a store of value with investors willing to accept

low or slightly negative interest rates for a safe return). For some owners who invest due to a speculation motive, this answer category might thus not be appealing.
I would be interested in the authors' assessment of this issue.

Minor comments:

- The pdf I have received did not contain the endnotes (maybe not the authors' responsibility).
- Fig 1 is for color print
- Second paragraph on page 7, second sentence – there are two occasions with "high financial literacy" – one occasion should be replaced with "low fin. lit."

1B. Author Responses

Comment #1: Results regarding financial literacy. One interesting aspect of this paper is that it relates findings on financial literacy of survey respondents to ownership of Bitcoin. The result is that ownership goes along with lower financial literacy. I have to admit that I am surprised by this result, and frankly, also have difficulties believing this result. While the analysis based on descriptive statistics could be misleading because you are comparing persons with vastly different socio-demographics this argument does not hold in the regression context. Table 5 is showing that the effect of financial literacy also holds when controlling for sociodemographic characteristics. However, the results of Table 5 reveal that the close association of ownership and financial literacy can be mainly traced to one component of financial literacy – namely the risk question. This question asks whether it is riskier to hold a single company stock or to hold a mutual fund of stocks. I think there are two reasons why this result could be spurious: First, lack of relevance of this question to some respondents. For example, unemployed persons might neither possess stocks or funds. They might provide an answer but the answer is irrelevant for their behavior. Second, differential risk attitudes of owners versus non-owners. Some evidence suggests that owners of Bitcoin might be much more risk tolerant. Given this, the risk difference between a single stock or a mutual fund does not matter for their behavior. With respect to this point, I wonder whether the survey contains information on ownership of risky assets. If authors controlled for the asset structure of survey respondents, it would become more clear whether it is financial literacy or risk attitudes which is driving this result – one suspicion is that it is the latter factor which is more important.

Response: Thank you for pointing out this issue with the interpretation of our results. While we do control for employment status in the regression, it is true that risk behavior is another plausible explanation for the observed results (versus financial literacy per se). Unfortunately, the survey does not contain additional information about respondent's overall asset holdings – we agree that this is an important factor to consider. Another example which illustrates your point is Fujiki (2020) "Cash demand and financial literacy: A case study using Japanese survey data". He finds that cash holdings are higher among those with high financial literacy, the caveat being that those with high financial literacy also have a range of other assets, and therefore the contribution of cash holdings to their portfolio is lower. So, looking at financial literacy alone does not tell the whole story.

To address this comment we have added an additional sentence at the end of section 4.2 that qualifies our results related to financial literacy by offering up the equally plausible explanation that Bitcoin owners may be more risk tolerant.

Comment #2: Cash holdings: It is interesting that the paper finds that owners hold more cash, on average. At the same time, a higher share plans to go cashless within the coming years. The paper assigns this puzzle to differences in the interpretation of what cashless means to survey respondents (no use of cash for transactions vs no use of cash for transactions and hoarding). I consider this explanation plausible, given that Bitcoin was designed to provide an alternative means of transaction. This would imply that Bitcoin owners hold cash as a store of value (because some of them are skeptical about financial institutions). It would be great if authors could present supportive evidence for this (plausible) claim, e.g. evidence on the portfolio structure of owners versus non-owners or their view of financial institutions.

Response: We have added footnote 18, which provides added context and evidence from Stix (2019) on two key points: 1] That Bitcoin owners state a belief in the benefits of Bitcoin for making payments while many have never actually made a payment. This gives added insight to the puzzle of `going cashless' because it shows that current behavior and future expectations for Bitcoin do not necessarily coincide. 2] Evidence that Bitcoin owners tend have similar levels of conventional bank deposits but are more likely to hold risky financial assets.

Comment #3: The paper states that speculation remains the key reason for ownership (e.g. in the abstract). While I agree to a large extent, I think that the empirical evidence in favor of this claim is not entirely convincing. Specifically, it relies on Table 6 where it is shown that 40% of owners provide the answer "store of value (investment)". My feeling is that the phrase "store of value" does not fully encompass speculation whose sole aim is to make profits (for example, German government bonds could be held as a store of value with investors willing to accept low or slightly negative interest rates for a safe return). For some owners who invest due to a speculation motive, this answer category might thus not be appealing. I would be interested in the authors' assessment of this issue.

Response: Table 6 was actually labelled in a misleading way by containing the "store-of-value" phrase. The response option presented to the respondent in the survey when asking about their main reason for owning Bitcoin is: "It is an investment". This concept more directly corresponds to a speculative motive. We have corrected the labelling and added a footnote 16 for clarification.