Financial exclusion and financial capabilities in Canada

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Abstract

Purpose – The financially excluded are often denied basic financial services from mainstream banking institutions, leading them to high-cost fringe finance institutions (FFIs) such as payday loan companies and pawnshops. While strategies to address financial exclusion often include financial capabilities education, there does not appear to be evidence suggesting such education is an appropriate solution. The purpose of this study is to explore the relationship between financial capability and financial exclusion with survey data collected from the Canadian city of Kamloops located in the southern interior of British Columbia.

Design/methodology/approach – This exploratory research addresses the objective with survey data collected on the banking habits and financial capability levels of fringe finance users in a Canadian city.

Findings – The results imply that fringe finance users do not have lower levels of financial capability than those who do not use fringe finance, when education and income are controlled.

Research limitations/implications – Limitations include the relatively small survey sample of 105 people in one urban center in Canada.

Originality/value – While financial literacy is acknowledged to be an important life skill for all members of society, there is no conclusive evidence suggesting it is a solution to financial exclusion. This is the first research to examine the relationship between financial exclusion and fringe finance use in Canada by collecting data on fringe finance users with face-to-face interviews.

Keywords Banks, Behavioral economics, Financial institutions and services

Paper type Research paper

1. Introduction

The lack of access to essential financial services describes the state of financial exclusion, which has been trending upward in Canada and other industrialized countries over the past couple of decades, leading to massive growth in the fringe finance industry despite public sector attempts to quell the growth. Since the release of the MacKay Report in 1998, Canadian public policy makers have made efforts to address the issue, resulting in increased consumer protection through the Federal Access to Basic Banking Services Regulations, which introduced the idea of consumer rights to basic banking services (SEDI, 2004). Despite these policy efforts, the fringe finance industry has continued to grow in leaps and bounds, while federal regulations have been criticized for being inadequate and enforcement has been condemned for being weak (Buckland, 2012). More recently, the Canadian Government has taken a cue from the literature suggesting a causal connection between low levels of financial literacy and

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financial exclusion (Atkinson *et al.*, 2007; Buckland, 2012; Simpson and Buckland, 2009; Buckland and Dong, 2008; Bryne *et al.*, 2007; SEDI, 2004), and provided support for financial literacy initiatives such as the one incorporated in Canada's recent Economic Action Plan (Government of Canada, 2014). While financial literacy is acknowledged to be an important life skill for all members of society, there is no conclusive evidence suggesting it is a solution to financial exclusion. Given that programs to build financial literacy and capability skills have become common strategies for addressing financial exclusion, this research investigates the effectiveness of allocating resources to such initiatives. The objective of this study is to explore the relationship between financial capability and financial exclusion with survey data collected from the Canadian city of Kamloops located in the southern interior of British Columbia.

FFIs mainly consist of check-cashing firms, payday loan companies, pawnshops and rent-to-own firms[1]. Pawnshops have the longest history as FFIs; however, the payday loan industry, which emerged in the 1990s, has rapidly grown to approximately 1,400 retail outlets across Canada, serving approximately 2 million Canadians (CPLA, 2014). Typically, check-cashing services and payday loans are provided by the same firms.

The relevance of this research is grounded in the problems stemming from rising trends in financial exclusion and associated use of fringe finance. First, given that financial exclusion is largely associated with the low-income segment of the population, a serious concern about the rising incidence of financial exclusion is its intensifying effect on income inequality (Buckland, 2012; Carbo *et al.*, 2007; Vass, 2007). The interest rates and administrative fees associated with fringe finance use are relatively high, placing a larger burden on the typically low-income fringe finance user. Second, fringe finance transactions do not contribute toward building a credit score that could qualify an individual for less-expensive mainstream banking options. Third, FFIs do not offer developmental services that support long-term needs such as savings accounts, investments, credit for loans and mortgages and professional advice to develop savings and credit management habits. Fourth, weak regulation of FFIs leaves their customers more vulnerable to unethical and exploitive business practices (Buckland, 2012; Buckland and Dong, 2008).

A clear understanding of the causes of financial exclusion and fringe finance use is needed for public policy makers to adequately address financial exclusion. There is a growing body of literature on financial exclusion and fringe finance use, especially in the UK and the USA and to a lesser extent in Canada. There appears to be a consensus on a number of factors identified as influencing the incidence of financial exclusion. The likelihood of financial exclusion tends to rise with lower income, less wealth, lower age groups, higher debt, lower levels of education and larger families, and falls with homeownership (Bowles *et al.*, 2011; Buckland and Dong, 2008; Gross *et al.*, 2012; Simpson and Buckland, 2009). Building on previous research, this research uses survey methodology to collect primary data from fringe finance users on their banking habits and financial capability level.

Four sections follow this introduction. The next section is a literature review covering the concept of financial exclusion, a discussion of the theoretical underpinnings and a review of the relationship between financial capability, financial literacy and fringe finance use. Section 3 describes the research methodology, followed by the results in Section 4, and a discussion and conclusions in Section 5.

2. Literature review

2.1 Financial exclusion

Financial exclusion has been broadly described as the "inability to access necessary financial services in an appropriate form" (Sinclair, 2001). Financial exclusion is a significant dimension of social exclusion, representing a source of inequality that policy makers have been attempting to solve (Carbo *et al.*, 2007, Bryne *et al.*, 2007).

The financially excluded include those who are unbanked and underbanked (SEDI, 2005). The unbanked are those without access to any services of mainstream banking institutions, and are typically measured by the number of adults without a bank account. The underbanked are those whose relationship with mainstream financial institutions is tenuous in that they are unable to access all the banking services they need. The underbanked often refers to those with bank accounts who do not have access to credit or liquidity.

The unbanked have been estimated to be in the range of 12-13 per cent of Canadian adults (Simpson and Buckland, 2009). Similar statistics suggest that 9 per cent of adults are unbanked in the USA (Hogarth *et al.* , 2003) and 8 per cent in the UK (Devlin, 2005), with the highest rates among northern countries in Ireland and Italy at approximately 17 per cent and 22 per cent, respectively (Carbo *et al.*, 2007). The unbanked rates are very high in many southern countries, such as 54 per cent in South Africa, 65 per cent in Mexico and 80 per cent in India (Buckland, 2012), although the reasons for exclusion are much different from those in the north and are beyond the scope of this paper. Although measuring the underbanked is less straightforward, those without a credit card have been considered a reasonable proxy, with Simpson and Buckland (2009) estimating Canada's underbanked at 16 per cent of adults based on this measure.

2.2 Theoretical framework

It is useful to briefly consider the theoretical model underpinning the analysis, even though the contribution of this paper is empirical. While the literature on financial exclusion makes use of several economic theories[2], behavioral economics theory is most relevant to this article, as it offers an explanation of an association between financial capability and financial exclusion. Behavioral economics challenges the human rationality assumption of neoclassical economics by attempting to gain a more comprehensive picture of human behavior. According to behavioral economics' concept of bounded rationality, limited financial knowledge and information as well as limits on brain-power and time can lead to sub-optimal outcomes in financial decision-making (Mullainathan and Thaler, 2001). The concept of bounded willpower is also relevant in explaining an individual's use of credit to its limit rather than adhering to a designated budget (Mullainathan and Thaler, 2001).

2.3 Relationship between financial capability, financial exclusion and fringe finance use

The behavioral economics concepts, described in Section 2.2, suggest that information constraints pertaining to financial knowledge offer an explanation for financial exclusion and the choice to use FFIs. Much of the existing literature on financial exclusion cites a lack of financial knowledge and understanding as a determinant of financial exclusion and fringe finance use (SEDI, 2005; SEDI, 2004). Disney and Gathergood (2013) find that individuals with low levels of financial literacy tend to hold larger amounts of high-cost credit compared to those with higher levels of financial

literacy. Atkinson *et al.* (2007) describe how the lack of knowledge about products designed to meet the needs of low-income consumers has prevented many from engaging with mainstream financial institutions. The National Association of Citizens Advice Bureau in the USA uses the term "financial literacy divide" to explain why ill-informed consumers end up paying more for financial products (Atkinson *et al.*, 2007).

Current policies to deal with financial exclusion typically include financial literacy and capability education (Disney and Gathergood, 2013; Bowles *et al.*, 2011; Buckland, 2012; Simpson and Buckland, 2009; Atkinson *et al.*, 2007; SEDI,2005; SEDI, 2004). In fact, given that financial markets and products have become increasingly more complex, the importance of financial capabilities education for all of society is more important than ever.

While it is widely agreed that higher levels of financial capability will benefit all members of society, there does not appear to be any solid evidence that financial capability education is a solution to financial exclusion. Some research has found an association between low levels of financial knowledge and low levels of income and education (Buckland, 2012; SEDI, 2004). Other groups found to have relatively lower levels of financial literacy include those who became financially independent later in life and those with higher levels of education and limited experiences with financial capability. New immigrants without previous knowledge or experience with Canadian banking and credit also tend to have lower levels of financial literacy and thus tend to be more vulnerable (SEDI, 2004).

The concept of financial capability is used here rather than the more commonly used concept of financial literacy. Financial literacy emphasizes objective knowledge on topics associated with money, economic and financial matters, but financial capability goes further by considering "financial knowledge and understanding, financial skills and competence, and financial responsibility" (SEDI, 2005, p. 4). In addition, financial capability is often described in the context of moving people along a financial development continuum, making it relevant to important policy issues such as essential skills, lifelong learning, social inclusion and access to public sector programs (SEDI, 2005; SEDI, 2004).

The analysis described in the following section explores possible associations between financial capabilities and financial exclusion and fringe finance use with survey data from a Canadian city.

3. Methodology

Survey research methodology is used to examine the relationship between financial capability and financial exclusion. Financial capability levels of fringe finance user survey respondents are assessed with quiz scores which are compared to scores on the same quiz of non-fringe finance user respondents from the 2009 Canadian Financial Capability Survey (CFCS).

3.1 Kamloops Fringe Finance Survey

Data are collected with a survey conducted in the Canadian city of Kamloops, located in the interior of British Columbia, with a population of 98,000 including close adjacent municipalities. The socioeconomic characteristics of Kamloops are reasonably representative of the province of BC. For instance, average income in Kamloops is $39,107, slightly less than $40,650 for BC, and the proportion of low-income individuals

(after-tax) is 12.9 per cent in Kamloops, compared to 14.4 per cent in BC (Statistics Canada, 2011). The labor force participation rate is 65 per cent in Kamloops, compared to 66 per cent in BC, and median age is 42.5 in Kamloops, a little higher than 4.1 in BC.

The number of FFIs in Kamloops has steadily risen from 3 in 2001 to 6 in 2003 to 12 in 2013. Unlike, some larger metropolitan areas, Kamloops has not experienced significant closures of mainstream bank locations. Currently, there are 23 mainstream bank locations, which include 6 credit union locations.

The survey questionnaire includes mostly quantitative questions about banking habits, attitudes toward FFIs, socio-demographic information and a financial capabilities quiz. Face-to-face surveys were administered to 105 users of FFIs in Kamloops over a five-week period in May and June of 2013. Recruitment of participants was done using the non-probability sampling procedure of snowball sampling with an effort to represent the different socioeconomic groups in Kamloops, as was used in related research by Buckland (2012) and Buckland and Martin (2005).

The snowball sampling technique was chosen for three reasons. First, random sampling of low-income populations is difficult because of higher levels of mobility (Buckland, 2012). Second, it is an appropriate method for reaching difficult-to-identify populations, such as users of FFIs (Saunders *et al.*, 2012; Zikmund *et al.*, 2013). Third, it is a cost-effective method of collecting data. A drawback with snowball sampling is potential bias, given respondents are likely to refer other potential respondents who are similar to themselves, resulting in a relatively homogeneous sample (Saunders *et al.*, 2012; Zikmund *et al.*, 2013).

To address the sampling bias associated with a potential homogeneous sample, attempts were made to reach a diversified set of initial respondents by displaying posters in a variety of difference locations such as grocery stores, drycleaners, non-profit agency offices, libraries, low-income apartments and homeless shelters. Respondents were then asked to spread the word among their friends, neighbors and co-workers who used fringe finance services. It is estimated that 50-60 per cent of survey respondents were initial recruits, with the remainder resulting from snowballing.

Respondents were compensated with a $20 grocery store gift card to offset any costs such as transportation and babysitting. Incentives tend to increase response rates, which have been experiencing a downward trend since the mid 1980s (Singer and Ye, 2013). Some concerns around the use of incentives include potential negative effects on the quality of responses, sample composition and non-response bias, although recent research findings by Singer and Ye (2013) suggest that neither of these necessarily result. To participate in the survey, individuals had to be at least 18 years of age, live in Kamloops and had to have used an FFI within the past five years.

An objective financial capabilities quiz developed by Statistics Canada was used to assess financial capability. The quiz consists of 14 multiple-choice questions on a range of financial topics including inflation and interest rates, stocks and risk, insurance, taxation, debts and loans and banking fees (see Appendix 1 for the quiz questions).

3.2 Statistics Canada's Canadian Financial Capability Survey

The quiz is taken from the 2009 CFCS, where data were collected from 15,519 Canadians (Statistics Canada, 2010)[3]. The data set used for the current research includes a sample of 14,731 respondents who have not used an FFI in the past 12 months. National surveys, such as this one, tend to under-represent low-income groups which are expected to

include most of the financially excluded (Buckland, 2012), thus the need for additional research such as the Kamloops survey.

It is important to note that there is some controversy over the use of standardized objective financial capability quizzes such as the one in the CFCS. There is validity to the argument that people from different socioeconomic backgrounds require different types of financial knowledge and capabilities (Buckland, 2012). For instance, most low-income people would not have any use for knowledge about the stock market, which is the topic of one of the questions. To compensate for such weaknesses in the quiz instrument, comparison of quiz scores will take into account differences in income and education levels.

3.3 Data analysis techniques

Descriptive statistics are used to provide an overview of the characteristics of those who use FFIs in Kamloops, which are compared to similar statistics in related studies to verify reliability of the data sample. The financial capability levels of fringe finance users in the Kamloops survey are compared to those who are not fringe finance users in the 2009 CFCS using two-sample *t*-tests with unequal variance for the mean quiz scores. *T*-tests are also used to analyze characteristics within the Kamloops survey sample.

4. Results

4.1 Socioeconomic characteristics of fringe finance institution users in Kamloops

The gender composition of fringe finance users is close to equal, with 57 per cent female and 43 per cent male. Table I presents the frequency distributions of age, education and household income. A large majority of the sample are below the low-income cut-off[4] of $19, 941 for a family of one and $30,517 for a family of three (Statistics Canada, 2011).

The proportion of self-identified Aboriginals is 42 per cent, relatively high compared to their representation of close to 10 per cent in the Kamloops population (Statistics Canada, 2012). In addition, 71 per cent of the respondents reported being not employed

Age (%)	
18-24	12.4
25-34	23.8
35-44	23.8
45-54	30.5
55-64	9.5
65+	0.0
Education (%)	
Less than high school	35.2
Completed high school	28.6
Some post-secondary	18.1
Post-secondary diploma	11.4
Post-secondary degree	6.7
Household income (%)	
Less than $20,000	78.1
$20,000-$39,999	18.1
$40,000 and above	3.8

Table I. Fringe finance user characteristics

and of those who are employed, 43 per cent are employed part-time. Students make up 10 per cent of the survey respondents.

Just over one-third (36 per cent) of fringe finance users have dependents and 64 per cent have the sole financial responsibility for their household. Of those with dependents, 76 per cent are female, and of those who have the sole financial responsibility for their household, 54 per cent are female.

4.2 Assessing the reliability of the Kamloops survey data

Given sampling bias issues associated with the snowball sampling method, the reliability of the sample is assessed by comparing some of the key socioeconomic statistics of the survey sample to those of similar surveys conducted in Canada using different sampling methods. A similar survey was conducted in Prince George, British Columbia, in 2009 to 2010 using random selection with the sample representative of those fringe finance users who were willing to participate (Bowles *et al.*, 2011). The CFCS, as described in Section 3, was conducted over the telephone using a cross-sectional design. Although telephone survey methods, such as those used by the CFCS, have the advantages of fast data collection and low costs, the absence of face-to-face contact comes with a greater tendency for no answers, incomplete answers and greater non-response rates (Zikmund *et al.*, 2013). Prospective respondents are more likely to cooperate when the interviewer is requesting participation in-person rather than over the telephone. As mentioned in the methodology section, the Kamloops survey conducted for this research made use of incentives by compensating respondents with a $20 grocery store gift card to cover expenses, which has been shown to increase response rates (Zikmund *et al.*, 2013, Singer and Ye, 2013). The Prince George survey reports refusal rates in the area of three to four times greater than the number of respondents, thus providing support for the use of incentives. It is acknowledged that all survey methods have biases and researchers can only attempt to minimize the biases. The demographic composition of the survey respondents is quite similar for the three surveys, providing support for the reliability of the Kamloops survey data (see Appendix 2 for a comparison of the three surveys).

4.3 Banking habits of fringe finance users in Kamloops

Just over three-quarters (76 per cent) of the survey respondents have an account at a mainstream bank or credit union. Of those with bank accounts, close to 90 per cent have a checking account and 47 per cent a savings account. Most access their accounts through ATMs (93 per cent) and in-person (93 per cent), with a smaller proportion through either a telephone (31 per cent) or computer (39 per cent). Those without a bank account are considered unbanked, making up 24 per cent of the survey sample. Over 80 per cent of those without a bank account would like to have one.

Approximately two-thirds (67 per cent) of the respondents are considered underbanked, measured as those with a bank account but without a traditional credit card, the method used by Simpson and Buckland (2009). The vast majority of survey respondents (91 per cent) are financially excluded, that is they are either unbanked or underbanked. Only 23 per cent of the respondents have credit cards, and close to half (47 per cent) of these credit cards are prepaid, which do not require a credit rating. Given that all respondents use FFIs and few have bank loans and traditional credit cards, it suggests an inability to attain credit from a mainstream banking institution, leading to

a demand for fringe finance. Note that those without a credit rating are not able to cash checks immediately without holds or attain any type of short-term loans or credit from mainstream banking institutions.

4.4 Fringe finance habits

In the past five years, 98 per cent of the respondents used the services of a payday loan or check-cashing firm[5], 69 per cent a pawnshop and 9.5 per cent a rent-to-own firm. Frequency of use statistics are summarized in Table II. Of fringe finance users, 62 per cent use the services of payday loan/check-cashing companies at least once a month, which may be considered habitual use. Of the 38 per cent who use these services less than monthly on average, 80 per cent use the services less than six times per year, which may be considered occasional use. Pawnshop use is less frequent, with 59 per cent of pawnshop users accessing cash less than once a month and 41 per cent at least monthly.

Table III shows the frequency of use of different services offered by payday loan/check-cashing firms. Check-cashing is the most popular service, with 42 per cent of customers cashing at least one check per month. Payday loans are accessed by 55 per cent of the customers, with 33 per cent of the customers taking out at least one loan per month. Money orders and money transfers are services used to a lesser extent by 32 per cent and 27 per cent of the customers, respectively.

Rent-to-own services have been used by 9.5 per cent of the respondents, granted only 6 per cent of the respondents currently have rent-to-own contracts for up to three items.

4.5 Canadian Financial Capability Survey – objective quiz

Table IV outlines a comparison of quiz scores of the Kamloops survey sample to the non-fringe finance users in the national sample. The mean quiz score is lower for the fringe finance users compared to the non-fringe finance users, 49 per cent and 60 per cent, respectively, at a statistically significant level ($p < 0.01$), suggesting that fringe finance users have lower levels of financial capability than non-users.

To gain greater insight into the quiz scores, the *t*-test analysis is controlled for education and household income. As shown in Table IV, the mean quiz score increases with level of education and income for both samples. When the difference in quiz scores

Table II. Frequency of fringe finance use over past 12 months

Type of fringe finance company	Less than once per month (%)	Once per month (%)	More than once per month (%)
Payday loan/check-cashing	38	34	28
Pawnshop	59	25	16

Table III. Frequency of use of payday loan/check-cashing company services

Fringe finance service	% of customers	% of customers using at least monthly
Check-cashing	65	42
Payday loans	55	33
Money orders	32	24
Money transfers	27	16

Total sample, education and income level	Fringe finance users-Kamloops survey	Non-fringe finance users-CFCS	Difference (excluded-included)
Total sample	49.1% (16.9)	60.1% (23.0)	11.0*
Education level			
Less than high school	44.4% (14.5)	47.0% (22.0)	2.6
High school completion	48.0% (19.7)	55.2% (22.3)	7.2
Some post-secondary	49.6% (15.9)	62.2% (22.0)	12.6*
Post-secondary completion	59.4% (14.1)	64.8% (22.0)	5.4
Household income			
Less than $20,000	47.4% (17.0)	49.3% (23.7)	1.9
$20,000-$39,999	54.5% (16.5)	56.6% (22.5)	2.1
$40,000-$60,000	58.9% (6.8)	60.0% (21.7)	1.1

Notes: *t-test results reveal a statistically significant difference; $p < 0.01$; standard deviation in parentheses

Table IV.
A comparison of mean financial capabilities between the fringe finance users and non-fringe finance users

is controlled for education, non-fringe finance users score higher than fringe finance users, but only at a statistically significant level ($p < 0.01$) for those with some post-secondary education.

When controlled for household income, none of the quiz score differences is statistically significant. Overall, the results suggest that the level of financial capability is not associated with financial exclusion when education and household income levels of the respondents are considered[6].

4.6 Financial capability comparisons among fringe finance users

Table V illustrates a comparison of mean financial capabilities scores of the Kamloops sample of fringe finance users with different banking and fringe finance use habits. The t-test results imply that bank account holders have a higher level of financial capability than the unbanked (non-bank account holders) and the difference is statistically significant ($p < 0.05$). The underbanked also have higher levels of financial capability than the unbanked, at a statistically significant level ($p < 0.05$), not unexpected considering the large overlap between those with a bank account and the underbanked.

Type of fringe finance user	Mean quiz score	Difference (%)
Bank account holder	52% (16.2)	12*
Unbanked (non-bank account holder)	40% (16.1)	
Underbanked	51% (16.1)	11*
Frequent check-cashing/payday loan use	47% (16.2)	6
Non-frequent check-cashing/payday loan use	53% (17.6)	
Frequent pawnshop use	43% (18.7)	9*
Non-frequent pawnshop use	52% (15.5)	

Notes: *t-test results reveal a statistically significant difference; $p < 0.05$; standard deviation in parentheses

Table V.
A comparison of mean financial capabilities of fringe finance users with different banking and fringe finance habits

There appears to be a difference in financial capability levels based on frequency of fringe finance use. Frequent users[7] of check-cashing/payday loans appear to have lower levels of financial capability than less frequent users. Likewise, frequent pawnshop users have lower levels of financial capability than less frequent users and the difference is statistically significant ($p < 0.05$).

5. Discussion and conclusion

The results suggest that those who use FFIs do not choose to do so due to low levels of financial capabilities. When income is controlled for, financial capability levels are not statistically different between those who use fringe finance and those who do not. However, results imply that among fringe finance users, those with higher levels of financial capabilities are more likely to be underbanked than unbanked. It is also found that those with relatively higher levels of financial capabilities tend to use check-cashing and payday loans services and pawnshops less frequently than those with lower levels of financial capabilities, although only pawnshop use differences are statistically significant. An analysis of financial capability scores suggests that policy initiatives designed to increase financial capabilities will not necessarily result in less financial exclusion. This does not mean that the financially excluded have adequate levels of financial capability, as it is most likely the case that all of society will benefit from financial capability education, evidenced by a mean financial capability score of 58 per cent for the total national survey sample (2009 CFCS).

It appears that financial exclusion may be a result of low socioeconomic status rather than a lack of financial knowledge, as has been proposed by Buckland (2012) and SEDI (2004). The socioeconomic and banking habits data suggest that close to 80 per cent of the sample of fringe finance users have household incomes less than $20,000 and approximately 70 per cent are not employed, suggesting poverty. The behavioral economics concept of bounded willpower may offer an explanation, as overuse of credit and lack of regular savings is a common behavior among all socioeconomic groups, but for those with low incomes and few assets, the consequences are much more serious, often resulting in financial exclusion. Research by Mullainathan and Shafir (2009) suggest that people do not freely choose to be financial excluded. They explain:

> […] the behavioural patterns of the poor may be neither perfectly calculating nor especially deviant. Rather, the poor may exhibit fundamental attitudes and natural proclivities, including weaknesses and biases that are similar to those of people from other walks of life. One important difference, however, is that in poverty the margins of error are narrow, so that behaviours shared by all often manifest themselves in the poor in more pronounced ways and can lead to worse outcomes (121).

Close to three-quarters of the survey respondents have bank accounts; however, most do not appear to have access to mainstream credit, not even for cashing a check immediately. This suggests a poor credit rating from past banking behaviors or lack of banking history, either of which has dire consequences for low-income people, while those with poor credit ratings and higher incomes are more likely to maintain positive bank account balances and are able to access higher-priced mainstream credit, such as credit cards, albeit the interest rates are still lower than those offered by FFIs. Those who maintain credit relationships with mainstream banking institutions are also able to rebuild their credit ratings, something that fringe banking does not allow. In sum, poverty appears to exacerbate the consequences of credit problems.

The proposed connection between low levels of financial capability and financial exclusion in the literature is grounded in the behavioral economics' concept of bounded rationality. Bounded rationality proposes that those who use fringe finance do so because of a lack of financial knowledge, which may be due to a lack of access to information or lack of intellectual capability, for instance. However, the results indicate that financial capability levels are not statistically different between those who use fringe finance and those who do not when income is a control, suggesting that lack of financial knowledge does not explain the choice to use fringe finance. It may be the case that many fringe finance users do not have less-expensive options available to them. With 90 per cent of the survey sample being financially excluded, it could very well be the situation that fringe finance is their only option for essential bank services such as check-cashing without a hold or a short-term small loan. At the same time, there are other reasons for using fringe finance, such as receiving more respectful treatment than at mainstream banking institutions (Buckland, 2012).

Further research is required to generalize the results of the current findings from one city in Canada. If the findings can be confirmed with a larger sample from a wider geographic area, it may be that more appropriate public policy aimed at increasing financial inclusion is required. Given the strong association between poverty and fringe finance use, initiatives to reduce poverty such as through employment and income support are expected to increase financial inclusion and reduce the demand for fringe finance services. As Buckland (2012) points out, with adequate income, fringe finance users would be more likely to have both a desire and a need for the developmental services of mainstream financial institutions. The Canadian literature on financial exclusion provides a broad array of policy recommendations such as offering more information about financial fees and services of mainstream institutions, encouraging mainstream institutions to make their services more accessible, encouraging mainstream institutions to provide more appropriate services for low-income people, providing greater levels of consumer protection and ensuring competition in financial markets (Buckland, 2012, Buckland and Dong, 2008). The European literature tends to emphasize social responsibility in public policy (Carbo *et al.*, 2007). Some advocate for a combination of education, security and economic policy to effectively tackle financial exclusion (Vass, 2007). A multifaceted strategy addressing both demand-side and supply-side factors affecting financial exclusion is likely to have the greatest impact.

Notes

1. Income-tax preparation cash advances are also considered to be fringe finance institutions but are not included in the current research.
2. Several other economic theories have been applied to explain financial exclusion, namely, neoclassical economic theory, life cycle-permanent income theory, new Keynesian theory and new institutional economic theory. Buckland (2012) and Buckland and Dong (2008) offer succinct explanations of these economic theories and how they might apply to financial exclusion.
3. Data from the more recent 2014 CFCS are available; however; the questions used to determine fringe finance use have changed, such that they are not directly comparable with the Kamloops survey data. For instance, in the 2014 survey, respondents are asked if they or anyone in their family has used a pawnshop in the past 12 months, as compared to the 2009 survey, in which survey respondents were only asked about their own use of such institutions.

4. LICOs are income thresholds, established by Statistics Canada, representing a proxy for the poverty level. If a family's income is below the threshold, they are likely to devote a larger share of their income to food, shelter and clothing than the average family (Statistics Canada, CANSIM Table 202-0801).
5. Most firms offering check-cashing services also offer payday loans, and vice versa.
6. *T*-test comparisons are estimated with the more recent 2014 CFCS data collected from 6,685 Canadians (Statistics Canada, 2015). The data set used for the *t*-tests consists of a sample of 6,375 respondents who have neither used nor have had any family member use a fringe finance institution in the past 12 months. Although the determination of fringe finance use is different from the 2009 CFCS and the Kamloops survey, the results are similar. Quiz scores are statistically different for the total sample and for the two lower education levels, but are not for the two higher education levels and all three household income levels. The household income brackets differ for the 2014 CFCS (<$32,000, $32, 000-54,999, $55,000-$80,000), such that the interpretation of the *t*-test results shows stronger support for the contention that quiz scores are not statistically different when income is controlled.
7. A frequent user is defined here as someone who uses the fringe finance service at least monthly.

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Appendix 1. Canadian financial capabilities quiz

Q1 – If the inflation rate is 5 per cent and the interest rate you get on your savings is 3 per cent, will your savings have at least as much buying power in a year's time?

a) Yes

b) No

c) Don't know

Q2 – A credit report is …?

a) A list of your financial assets and liabilities
b) A monthly credit card statement
c) A loan and bill payment history
d) A credit line with a financial institution
e) Don't know

Q3 – Who insures stocks in the stock market?

a) The National Deposit Insurance Corporation
b) The Securities and Exchange Commission
c) The Bank of Canada
d) No one
e) Don't know

Q4 – True or false? By using unit pricing at the grocery store, you can easily compare the cost of any brand and any package size.

a) True
b) False
c) Don't know

Q5 – If each of the following persons had the same amount of take-home pay, who would need the greatest amount of life insurance?

a) A young single woman with two young children
b) A young single woman without children
c) An elderly retired man, with a wife who is also retired
d) A young married man without children
e) Don't know

Q6 – If you had a savings account at a bank, which of the following statements would be correct concerning the interest that you would earn on this account?

a) Sales tax may be charged on the interest that you earn
b) You cannot earn interest until you pass your 18th birthday
c) Earnings from savings account interest may not be taxed
d) Income tax may be charged on the interest if your income is high enough
e) Don't know

Q7 – Inflation can cause difficulty in many ways. Which group would have the greatest problem during periods of high inflation that lasts several years?

a) Young working couples with no children
b) Young working couples with children
c) Older, working couples saving for retirement
d) Older people living on fixed retirement income
e) Don't know

Q8 – Lindsay has saved $12,000 for her university expenses by working part-time. Her plan is to start university next year and she needs all of the money she saved. Which of the following is the safest place for her university money?

a) Corporate bonds
b) Mutual funds

c) A bank savings account
d) Locked in a safe at home
e) Stocks
f) Don't know

Q9 – Which of the following types of investments would best protect the purchasing power of a family's savings in the event of a sudden increase in inflation?
a) A 25-year corporate bond
b) A house financed with a fixed-rate mortgage
c) A 10-year bond issued by a corporation
d) A certificate of deposit at a bank
e) Don't know

Q10 – Under which of the following circumstances would it be financially beneficial to borrow money to buy something now and repay it with future income?
a) When something goes on sale
b) When the interest on the loan is greater than the interest obtained from a savings account
c) When buying something on credit allows someone to get a much better paying job
d) It is always more beneficial to borrow money to buy something now and repay it with future income
e) Don't know

Q11 – Which of the following statements is not correct about most ATM (automated teller machine) cards?
a) You can get cash anywhere in the world with no fee
b) You must have a bank account to have an ATM card
c) You can generally get cash 24 hours-a-day
d) You can generally obtain information concerning your bank balance at an ATM machine
e) Don't know

Q12 – Which of the following can hurt your credit rating?
a) Making late payments on loans and debts
b) Staying in one job too long
c) Living in the same location too long
d) Using your credit card frequently for purchases
e) Don't know

Q13 – What can affect the amount of interest that you would pay on a loan?
a) Your credit rating
b) How much you borrow
c) How long you take to repay the loan
d) All the above
e) Don't know

Q14 – Which of the following will help lower the cost of a house?
a) Paying off the mortgage over a long period of time

b) Agreeing to pay the current rate of interest on the mortgage for as many years as possible
c) Making a larger down payment at the time of purchase
d) Making a smaller down payment at the time of purchase
e) Don't know

Appendix 2

Generally, the results of the Kamloops survey and the Prince George survey are similar. Approximately three-quarters of the survey respondents are in the age group 25 to 54, with 77 per cent in the Kamloops survey and 75 per cent in the Prince George survey. Although, in Kamloops, the largest proportion is between the ages of 45 and 54 (30.5 per cent), while in Prince George, the largest proportion is between the ages of 35 and 44 (33 per cent). The national CFCS finds 64 per cent of the fringe finance institution (FFI) user respondents to be in the age group of 25 to 54. All three surveys find the smallest proportion of FFI users to be age 55 and older.

A comparison of educational attainment indicates the largest proportion has not completed high school, 35 per cent in the Kamloops survey, 46 per cent in the Prince George survey and 28 per cent in the national CFCS. Likewise, the smallest proportion of FFI users in all three surveys has completed a post-secondary degree, 6.7 per cent in the Kamloops survey, 3.4 per cent in the Prince George survey and 12.6 per cent in the national survey.

Comparing income is more challenging due to variation in the question asked and the income categories used. The Kamloops survey asked for total household income, while the Prince George survey asked for total personal income. The CFCS asks for both personal and household income, but uses different income categories, making them difficult to compare across surveys. Both the Kamloops and Prince George surveys find that the largest proportion of respondents has annual income less than $20,000, 78 per cent and 69 per cent, respectively. The income distribution is different for the CFCS, with the largest proportion in the $25,000 to $50,000 category. The proportion of those with income in the $40,000 to $60,000 range is relatively low in the Kamloops and Prince George surveys, 3.8 per cent and 9.1 per cent, respectively, compared to 23.3 per cent for the CFCS.

The gender breakdown is fairly similar in all three surveys, with the Kamloops survey revealing a higher proportion of women (57 per cent), while the other two surveys find a higher proportion of men (57 per cent in the Prince George survey and 53 per cent in the national survey).

Given the research methodology used in the national CFCS, it is not surprising that the education and income levels of FFI user respondents were higher than the other two surveys. It has been observed that the quality of national survey data may not be strong for low-income people due to the under-coverage problem associated with telephone surveys such as the CFCS. The reasons for under-coverage are that low-income people tend not to have a long-term residence, are more likely to be transient and are less likely to have a telephone (Buckland, 2012). The under-coverage problem tends to decrease for in-person surveys such as the Kamloops survey and the Prince George survey. Bowles *et al.* (2011) report that the high refusal rate in the Prince George survey resulted in bias toward more low-income FFI users, because those who used a car to access the FFI tended to refuse participation more frequently.

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