Finding Relief from Debt: A Long-term Comparison of Canadian Debt Relief Options

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Objective

The purpose of this study is to evaluate the financial outcomes of Canadians who have completed a debt relief program. The primary research question is whether consumers who used a debt repayment plan are better or worse off than individuals who discharged their debt using another method.

Significance

This study is both timely and important because consumer debt in Canada is at near-record highs. The OECD (2017) recently reported that Canada is the most indebted nation in the world, with consumer debt topping over 100% of gross domestic product (GDP). Statistics Canada (2017) reports that the ratio of debt-to-disposable income is 166.9%, meaning that Canadians owe $1.67 for every dollar of disposable income. In a speech in December 2017, the Governor of the Bank of Canada, Stephen S. Poloz, said that the household debt of Canadians is one of the three things that keeps him up at night. Of primary concern, he said, is how these high levels of debt make the overall economy more sensitive to inevitable interest rate increases.

Credit can play an important role in society, for example, enabling individuals and families to borrow to increase human capital, purchase a home, or start a small business. While consumer credit can have positive effects on consumers and the overall economy, there are also some dangers that come with consumers taking on credit. Aside from the obvious financial strains faced on households with significant debt, researchers have found that debt has negative impacts on health, both physiological as well as psychological. Debt is correlated with stress, depression and self-reported poor health (Addo, 2017; Sweet et al. 2013; Drentea & Lavrakas, 2000). Being denied credit can be embarrassing and is seen as a social stigma (Jennett et al., 2012). A study by Lenton and Mosley (2012) found that the link between debt and health can worsen poverty cycles, forcing people to reduce hours or leave their jobs for health reasons. The researchers also found that worry makes managing debt more difficult and that membership in credit unions (in the U.K.) lessoned the worry.

Canadians have a few options when struggling with debt burdens. The Government of Canada, under the Bankruptcy and Insolvency Act, regulates bankruptcy and consumer proposal options. Consumers can file for bankruptcy (similar to Chapter 7 in the U.S.), which provides the greatest form of debt relief by eliminating the total debt owed after liquidation of unprotected assets. Bankruptcy typically takes approximately nine months

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to complete and, in some cases, consumers filing bankruptcy can have their debt forgiven completely. Those filing bankruptcies get out of debt faster, but their credit will receive an R9 rating, which is the lowest credit rating. Depending on the province of residence, the negative impact on a credit score can last for six to seven years.

Consumers can choose a consumer proposal (similar to Chapter 13 in the U.S.) that allows a consumer to make a settlement with a creditor, usually involving either extended repayment periods, reducing the amount to be paid, or a combination of both. Consumer proposals take approximately 18 - 36 months to complete, up to a maximum of five years. Consumers entering into a consumer proposal plan receive a rating of R7 on their credit reports, a slightly higher rating than those who filed bankruptcy. There has been a significant increase in the number of proposals filed because of legislative reforms in 2009 to the Bankruptcy and Insolvency Act (BIA). Consumer proposals constituted 17.4% of insolvencies in 2007 and grew to approximately 50% in 2016 (Government of Canada 2017).

Consumers can choose a debt management plan (DMP) where they negotiate with their lender to pay off 100% of their debt but over a longer time period. In consumer proposals, consumers maintain ownership of some assets, usually their home, while DMPs are intended to help consumers maintain full ownership of their assets. Consumers entering into a debt management plan receive a rating of R7 on their credit reports. Statistics from 2012 - 2016 from Credit Counselling Canada show an increase in the number of new counselling cases (26%) and new debt repayment programs (20%) (Credit Counselling Canada 2017). Currently over 14,000 individuals and families are using a debt repayment program to repay their debts; over $83 million was paid back to creditors last year (ending March 2016).

There is startlingly little research investing the financial recovery of consumers choosing a debt relief option in Canada or elsewhere. Credit counsellors, bankruptcy trustees, financial planners and advisors, and even educators all have competing incentives. What is in the best interest of the client? Where can a consumer get full and accurate information? We hope the results from this study will provide Canadians with more information so they can make better informed decisions and so policy makers can assess the current debt relief structure in Canada to determine if it is functioning appropriately.

This research is relevant for consumers, credit counselors, educators, financial institutions and policy makers. Understanding how consumers fare after using these programs can better inform consumers about which to choose, help lenders understand which consumers are more likely to manage their debt well after insolvency, provide credit counselors with better information to help their clients, and inform policy-makers about how well each program is functioning for the consumers who they represent. We know of no study that has compared the long-term outcomes for consumers using the different programs, making this study both unique and important.

Method

In this study, we collaborated with Credit Counseling Canada, a national association and accrediting body for 17 member organizations across Canada. Each of the 17 member organizations offer credit counseling in their community. Of the 17 organizations, eight chose to participate. Consumers who completed a DMP between January 1, 2013 and December 31, 2014 were contacted by their credit union and asked whether they would consent to allow their credit data to be shared by Transunion (anonymously) for use in this study.

The consent forms were collected between December 14th, 2017 until February 28th, 2018. Each member agency began and ended the collection of consents at different times depending on existing priorities and human resource capacity. Clients were contacted by email, phone, and mail. The methods varied for each agency and each client depending on the contact information the member organization had. In several cases, phone numbers were no longer valid, the client moved, or they had an incorrect (or missing) email address. All of this contributed to a small response rate. Member organization provided a list of consenting clients to TransUnion over a secure FTP server. TransUnion then matched that data to the credit records in their database.

The total number of clients, in the eight participating organizations, who completed a DMP in 2013 or 2014 was 5,374. The number of client successfully contacted was significantly lower due to the problems mentioned above. Of those contacted, 444 provided consent to allow their data to be used in the study. The sample size is further reduced to 336 because some of DMP clients started their programs before the data was available from Transunion. While the response rate is low, it is important to keep in mind the recency of the Equifax breach as well as the precarious state of many credit counseling clients. A full analysis of the sample and data collection methods will be made available in the final paper.

Research Design

To conduct the analysis, we use a matched sample to compare those who completed a DMP to a similar Canadian who completed either a bankruptcy, a consumer proposal, or choose to do nothing (control). This method is used with observational data to approximate a randomized experiment. The matches were done using Euclidian distances on eight key credit variables. This method is generally considered superior to propensity score matching because distance metrics attempt to find matches with similar covariate values rather than a propensity score (King & Nielsen, 2016). Euclidean distance matching was chosen because the matching variables are continuous variables. The matching is based on using each debt management client (provided by Credit Counseling Canada member agencies) as the center of a cluster. The data points that were used are as follows:

A.   Credit Score

B.   Revolving Debt

C.   Installment Debt

D.   Age of Oldest Trade

E.   Number of times 90+ days delinquent on mortgage payment in the last 24 months

F.   Number of trades 60+ days past due in the last 12 months

G.   Revolving balance/credit ratio

H.   Geography (FSA or Postal 5/6)

I.   Start date of Bankruptcy, Consumer Proposal, or Debt Management Plan

For each person in the input file (clients that have finished a debt management program), we started with geography (FSA or Postal code) and within that geography find 3 more people that: 1) have started BK at the same time, 2) have started CP at the same time, 3) are part of the control group. These clients are identified by first standardizing each of the variables above N(0,1). Next, each client is treated as the center of a cluster for the data points above. Matching consumers (for each of the three comparisons) are found based on minimizing the sum of Euclidian distances. The distance is minimized for data points A through H two quarters before the start date of either the debt management program, bankruptcy, or consumer proposal.

Analysis

Several outcome variables will be used as measures of financial outcomes. The variables can broadly be put in five categories: credit utilization, debt burden, liquidity, payment history, and financial distress. The full list of variables is available in Table 1. Each of the outcome variables will be assessed up to 36 months (twelve quarters) after completion of the DMP, bankruptcy, or consumer proposal. (Note that for the purposes of this conference proposal abstract, we are not showing the full output.)

The primary method we will use to analyze the time-series data is a generalized spline. A generalized spline is a piecewise polynomial function with different degrees of continuity at selected points (knots). A spline was fit to allow for discontinuity at four quarters prior to filing, at filing (baseline), 4 quarters post-filing, and 12 quarters post filing. To test whether the fitted spline performed better than a generalized linear model, a goodness-of-fit test was performed on each function, for each outcome variable. Next, an autoregressive-moving-average (ARMA) model was used to account for autocorrelation of the residuals between the observations. To determine the best ARMA model, an AIC estimator was used to assess the relative quality of the models. The resulting ARMA model was 2 autoregression periods (p) and 1 moving average (q).

Results

Note that due to the maximum word limit, full results are not shared.

Credit Utilization - Number of trade balances greater than zero (non-mortgage)

The credit inquiry pattern for DMP, CP, and BK is similar. All experience a spike and then significant drop after filing. DMP and BK are not significantly different in terms of number of trade lines throughout, while CP has the highest. DMP clients experience a more gradual decline of trade balances than BK and CP. By the 12th quarter post-filing CP has lowest number of trade balances, while BK and DMP are not significantly different from one another.

Figure 1. Number of Trade Balances Greater than Zero (non-mortgage)
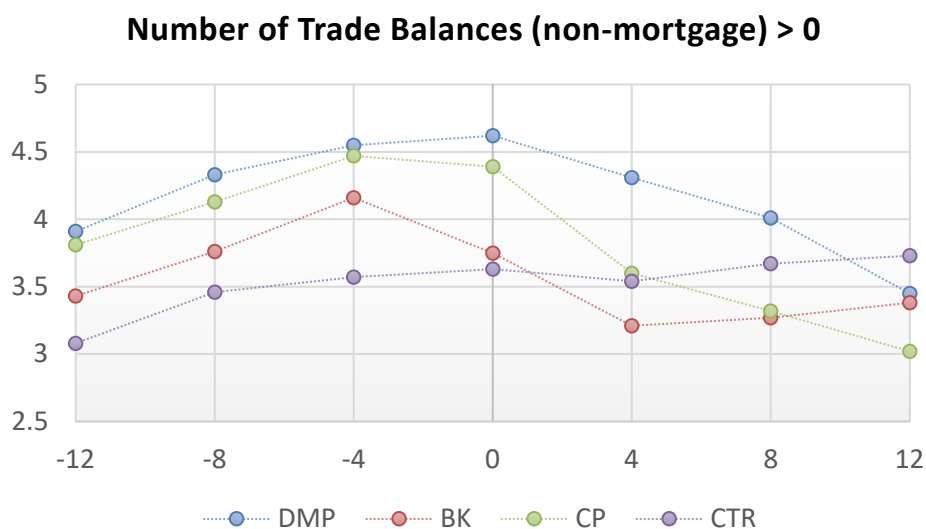
Table 1. Number of trade balances greater than zero (non-mortgage) estimates

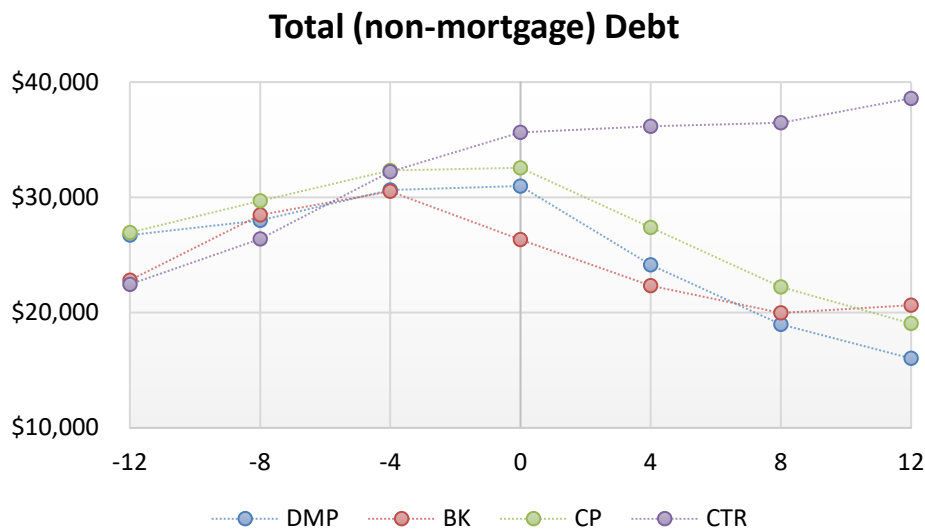|	-4Q	Slope (-4Q-0)	Baseline	Slope (0-4Q)	4Q	Slope (4-8Q)	8Q	Slope (8-12Q)	12Q
DMP-CTR	.962***	.006	1.036***	-.071*	.753***	-.106***	.331*	-.155***	-.288
DMP-CP	.057	.037	.486**	.056	.709***	-.031	.587***	-.032**	.459**
DMP-BK	.350**	.115***	1.185***	-.029	1.070***	-.109***	.636***	-.115***	.177
CP-BK	.292	.078**	.699***	-.085**	.361*	-.078***	.049	-.083***	.282
CP-CTR	.904***	-.030	.550**	-.127***	.043	-.075**	-.257	-.123***	-.747***
BK-CTR	.612***	-.108***	-.149	-.042	-.317	.003	-.305	-.040**	-.465**

Note: *p<.05, **p<.01, ***p<.001. An autoregressive–moving-average (ARMA) model is used to account for autocorrelation of observations.
Sample size 1,344 individuals

Debt Burden - Aggregate balance for non-mortgage open and closed accounts

First it is interesting to note that none of the groups (DMP, CP, BK, or CTR) are statistically significantly different 4 quarters before filing or at baseline for both total and revolving debt. After filing, DMP, BK, and CP reduce debt, while CTR increases debt. The overall pattern for DMP, CP, and BK is similar and all decrease at approximately the same rate (slope is not significant) until the end of year 2. BK has a slight increase of slope between year 2 and 3, while the CP and DMP slopes are still declining.

Figure 2. Total debt burden (non-mortgage)

Table 2. Total debt burden estimates

	-4Q	Slope (-4Q-0)	Baseline	Slope (0-4Q)	4Q	Slope (4-8Q)	8Q	Slope (8-12Q)	12Q
DMP-CTR	-1,241	-783	-1,799	-2,576***	-12,105***	-1,727**	-19,011***	-1,018**	-23,083***
DMP-CP	-1,971	43.6	313	-939	-3,443	-424	-5,140	650	-2,540
DMP-BK	-547	1,124	5,778	-1,116	1,316	-841	-2,049	-324	-3,346
CP-BK	1,424	1,081	5,465	-177	4,758	-417	3,091	-974**	-806
CP-CTR	731	-827	-2,112	-1,637*	-8,662*	-1,302*	-13,871***	-1,668***	-20,543***

|								
BK-CTR	-693	-1,907**	-7,577	-1,461*	-13,420***	-885	-16,962***	694	-19,737***

Note: *p<.05, **p<.01, ***p<.001. An autoregressive–moving-average (ARMA) model is used to account for autocorrelation of observations.
Sample size 1,344 individuals

Payment History - Number of accounts 30, 60, or 90 days past due

At four quarters before filing, DMP, CP, BK 4 are not significantly different in terms of accounts past due and all have more accounts past due than the control group. At the time of filing (baseline), DMP has the fewest accounts past due, followed by CP and BK. BK has fastest rate of decline until the end of the 12th quarter and end with the lowest number. DMP and CP show similar patterns. The decline for CP is slightly faster, but they end up essentially equal at 12Q.

Figure 3. Number of trade accounts 30, 60, or 90 days past due

Number of accounts 30, 60, or 90 days past due
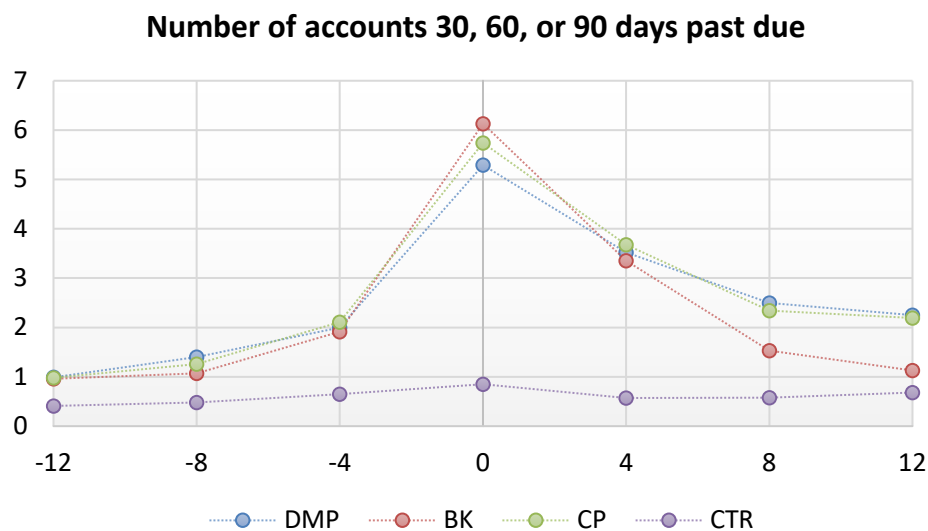
Table 3. Number of trade accounts 30, 60, or 90 days past due estimates

	-4Q	Slope (-4Q-0)	Baseline	Slope (0-4Q)	4Q	Slope (4-8Q)	8Q	Slope (8-12Q)	12Q
DMP-CTR	1.36***	0.82***	5.72***	-0.73***	2.79***	-0.21***	1.93***	-0.14***	1.36***
DMP-CP	-0.09	-0.08	-1.08***	0.24***	-0.13	0.08*	0.20	-0.05*	-0.01

DMP-BK	0.08	-0.20***	-1.44***	0.45***	0.37*	0.13***	0.91***	-0.05*	0.72***
CP-BK	0.16	-0.13**	-0.36	0.21***	0.50**	0.05	0.71***	0.00	0.73***
CP-CTR	1.45***	0.90***	6.79***	-0.97***	2.91***	-0.30***	1.73***	-0.09***	1.37***
BK-CTR	1.28***	1.03***	7.15***	-1.18***	2.42***	-0.35***	1.02***	-0.09***	0.64***

Note: *p<.05, **p<.01, ***p<.001. An autoregressive–moving-average (ARMA) model is used to account for autocorrelation of observations.
Sample size 1,344 individuals

Financial Distress - Credit Score

DMP clients have lower credit scores before filing (-4Q) and the highest at the end (Q12). They do not experience the same dramatic drops and rises as BK or CP. Bankruptcy filers suffer the largest and fastest drop in credit scores, but also recover the fastest, particularly between 4Q and 8Q post-filing. At the end of Year 3, DMP is approximately 26 points higher than BK and 54 points higher than CP.
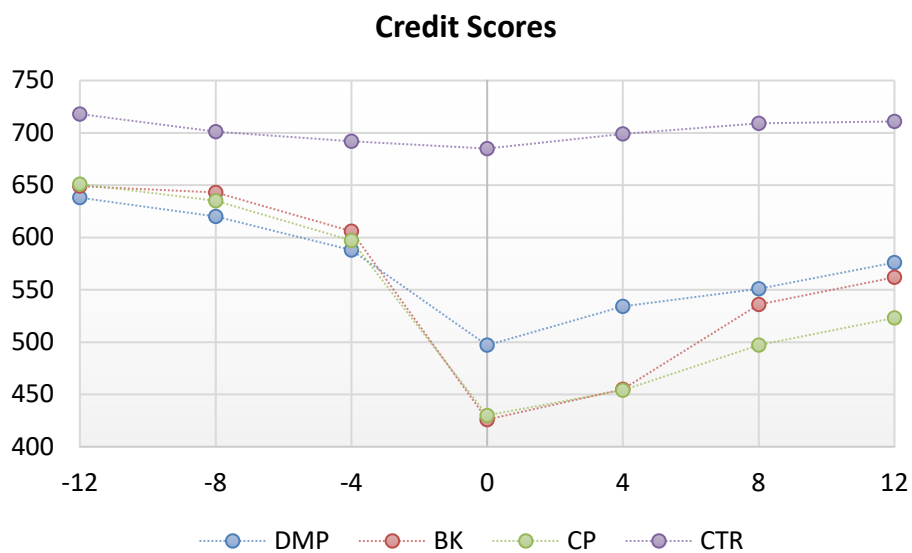
Figure 4. Credit Scores

Table 4. Credit score estimates

	-4Q	Slope (-4Q-0)	Baseline	Slope (0-4Q)	4Q	Slope (4-8Q)	8Q	Slope (8-12Q)	12Q
DMP-CTR	-94.78***	-42.92***	-203.49***	0.93	-171.45***	4.15***	-154.85***	7.37***	-125.38***

DMP-CP	-16.35*	39.70***	75.10***	-4.87**	76.54***	-3.51**	62.50***	-2.15**	53.90***
DMP-BK	-14.05*	37.80***	69.29***	-15.62***	59.69***	-8.02***	27.63***	-0.41	25.97***
CP-BK	2.30	-1.90	-5.81	-10.75***	-16.85*	-4.50***	-34.87***	1.73**	-27.93***
CP-CTR	-78.43***	-82.62***	-278.59***	5.80**	-247.99***	7.66***	-217.35***	9.52***	-179.28***
BK-CTR	-80.73***	-80.72***	-272.78***	16.55***	-231.14***	12.17***	-182.48***	7.78***	-151.35***

Note: *p<.05, **p<.01, ***p<.001. An autoregressive–moving-average (ARMA) model is used to account for autocorrelation of observations.
Sample size 1,344 individuals

Conclusion

There are very clear differences in the financial outcomes of Canadians choosing different debt relief options. Generally speaking, DMP and CP clients show the most similar patterns, while bankruptcy filers seem to recover the fastest. While consumers filing a bankruptcy suffer the most significant initial drop in credit scores, they are the quickest to recover. Bankruptcy filers also start with the highest number of accounts past due and end with the fewest. In terms of total debt, all three groups decline at approximately the same rate, but BK filers experience a reversal between years 2 and 3 indicating possible access to new credit. A similar pattern can be seen with trade balances, where all three debt relief groups experience an initial drop from baseline to the 4th quarter. However, CP and DMP groups continue on a downward slope while bankruptcy filers experience a positive slope, indicating access to new credit.

These findings are only part of the complete paper, but even with just these four analyses, we see differences in the long term financial outcomes of debtors in Canada. Consumer proposals are growing in popularity and most financial institutions like this arrangement because more of the debt is often repaid. The same can be said of DMPs. However, these might not be the best option for most consumers, particularly if we look at the quicker recovery experienced by bankruptcy filers. This has important policy implications for consumers and the banking sector that are discussed in the full paper.

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	Debt Management Plan			Bankruptcy			Consumer Proposal			Control Group			
	Mean	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**	
Credit Score	496.65	495.5	76.06	425.52	403	66.32	429.84	402	76.76	685.14	693	101.89	CTR diff
Number of Trades with Balances >0	4.68	4.0	2.48	3.82	4.0	2.26	4.50	4.0	2.52	3.81	3.0	2.03	CTR=BK CP=DMP
Total Debt	$41,860	$22,023	$70,634	$39,964	$20,341	$75,957	$54,590	$24,391	$121,609	$71,812	$25,948	$126,293	CTR diff
Total Revolving Debt Number of Trades 30 Days Delinquent in prior 12 months	1.92	1.5	1.84	2.22	2.0	2.06	2.03	2.0	2.05	.58	0	.85	CTR DIff
Number of Trades 60 Days Delinquent in prior 12 months	1.20	1.0	1.47	1.57	1.0	1.90	1.44	1.0	1.76	.170	0	.474	CTR diff DMP/BK diff