

Community Futures Program

Western Economic Diversification Canada Performance Report

ROUND SEVEN (2009-14)

Program & Reporting Unit

Policy and Strategic Direction Branch

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EXECUTIVE SUMMARY

This report is a continuation of a performance measurement strategy used to evaluate Community Futures (CF) loan client success by comparing several indicators of business success with results from comparable firms for the period 2009 to 2014. These indicators include industry concentration, employment growth, firm longevity, sales growth, and labour productivity growth, which are measured using data obtained from Statistics Canada.

Notwithstanding the data suppression issue when analyzing the industry concentration for CF assisted firms, the data analyzed at an aggregate level showed the following results:

- CFs in Western Canada were able to obtain business numbers (BN) for 4,939 active clients, more than in previous years. Of these, 2,315 (47%) were linked to the Longitudinal Employment Analysis Program (LEAP) and 1,982 (40%) were linked to both Longitudinal Employment Analysis Program (LEAP) and T2 information.
- In terms of employment growth from 2009 to 2014, CF assisted firms increased their number of employees by 8.02% annually compared to a 2.89% compounded annual employment growth rate in non-assisted firms.
- In terms of sales from 2009 to 2014, CF assisted firms exhibited a 11.24% compounded annual sales growth rate compared to a 6.17% compounded annual sales growth rate for non-assisted firms. In addition, it appears that CF loan clients were able to withstand initial shocks to economic activity better than firms without CF assistance. Sales growth of CF assisted firms also tends to outperform sales growth of comparable firms.
- CF assisted firms exhibited significantly stronger firm longevity than those firms in the comparable group, especially in the long run.

Overall, the data demonstrates Community Futures organizations' lending activity is making a difference. Although the comparable group appears to lend to a slightly more diversified clientele base, in recent years CF organizations have made strides in diversifying their clientele. CF assisted firms generally outperformed the comparable group in terms of job growth, firm longevity, and sales growth.

MATCHING PROCESS

Methodology

The performance report requires linking CF assisted businesses to a number of administrative data files from Statistics Canada in order to obtain data for performance indicators such as dynamics of employment (employment and payroll growth), firm longevity (business survival rate calculated using the entries and exits of firms), and financial performance (sales growth).

In Round Five, the methodology for matching was slightly changed. A list was compiled and provided to Statistics Canada by each regional development agency (RDA) of CF assisted firms by ACOA, CanNor, CED-Q, FedDev, FedNor, and WD. Duplicate clients were removed based on business numbers (BNs) and the legal and/or operating names. Unlike previous rounds that linked the list of clients to the Business Registry (BR), then LEAP and GIFL files, the list of clients was directly linked to the LEAP files after cleaning the list of duplicates. Only those enterprises that had matching records in LEAP and T2 were retained for analysis of financial performance.

This same methodology was used for this year's client lists, without any modifications. Note that for this year, data for CanNor were excluded from the matching.

Table 1: Results from the Matching Process by Regional Development Agency

	ACOA	CanNor	CED-Q	FedDev	FedNor	WD
Number of non-duplicate records	6,988	N/A	4,726	3,307	1,508	4,939
Number/Share of firms found in 2014 T2-LEAP	2,569 (37%)	N/A	2,150 (45%)	1,634 (49%)	642 (43%)	2,315 (47%)
Final linkage rate 2017 (matches with both T2 and LEAP Information)	2,289 (33%)	N/A	1,876 (40%)	1,285 (39%)	550 (36%)	1,982 (40%)

The final matching rates have either remained constant or increased for all RDAs compared to the previous round. FedDev's and FedNor's matching rates increased by 3%, while WD's increased by 2%. The matching rates for ACOA and CED-Q were equal to those from the previous round.

It is still crucial to note, however, that there is still some data suppression within certain industries for some indicators. However, the data suppression is not high enough to warrant excluding the analysis of performance in some areas. The strength of the analysis of the CF program in Western Canada overall is not lessened, but the ability to investigate differences between some industries for employment growth and business survival rates is compromised. In comparison to round six, this round saw an increase in instances of suppression in the areas of share of firms, employment, survival rates, and sales growth data.

Statistics Canada also provided a set of tables for firms that did not receive support under CF programs. Therefore, performance results for CF assisted firms can be evaluated against a control group of comparable firms that are similar in size and geographic location. The comparable group of non-assisted firms are then compared to the group of CFP-assisted firms by:

- industry concentration including share of firms by industry and the Herfindahl Index;
- employment dynamics;
- business survival rates; and
- financial indicators.

Statistics Canada provided us with data from the LEAP and T2 matching processes. For those firms matched to the LEAP, data for employment, payroll, number of enterprises, and financial performance were only provided for the years 2008 and 2013. We then chose to calculate measures for the share of firms by industry, penetration rates, employment growth, and sales growth using the dataset retrieved from the LEAP matching process.

Since growth in terms of sales or employment is not constant over a five year period, an average annual growth rate can misrepresent the fluctuations of sales or employment figures from year to year. In order to overcome this limitation, we chose to calculate growth rates using the compounded annual growth rate formula. In doing so, the growth rate incorporates the compounded effect of growth in employment and sales. The average annual growth rate and compounded annual growth rate are as follows:

$$\text{Average Annual Growth Rate} = \frac{\text{Total Growth Rate}}{\# \text{ of years}}$$

$$\text{Compounded Annual Growth Rate} = \left(\frac{\text{End Value}}{\text{Beginning Value}} \right)^{\frac{1}{\# \text{ of years}}} - 1$$

RESULTS

This section summarizes results for CF assisted firms in Western Canada. Performance results for CF assisted firms in other parts of Canada are carried out by the respective RDA. Data tabulations are presented by industry as classified by North American Industry Classification Systems (NAICS), and by enterprise size as measured by the number of employees, referred to as average labour units (ALUs). The crude petroleum and liquid natural gas extraction sectors¹, the utilities sector, and the finance and insurance sector are excluded from this analysis. Larger enterprises with more than 100 ALUs are also excluded.

Share of Firms by Industry

The distribution of firms by industry during 2014 for both CF assisted firms and comparable firms is represented in Table 2. This representation is helpful as it demonstrates the concentration or importance of specific industries relative to the pool of CF assisted enterprises in Western Canada. Note that the same measure is provided for the share of firms by industry in the group of comparable firms.

Table 2: Share of Firms by Industry for Western Canada, 2014

<i>Industry</i>	<i>Enterprise size (ALU)</i>	<i>CF Assisted Firms</i>	<i>Comparable Firms</i>
Total (All selected NAICS)	All sizes	100.00%	100.00%
	Less than 20 ALU's	95.18%	93.94%
	20 to 100 ALU's	4.82%	6.06%
Agriculture, Forestry, Fishing and Hunting	All sizes	4.74%	10.18%
Mining and Oil and Gas	All sizes	X	3.51%
Construction	All sizes	11.07%	17.84%
Manufacturing	All sizes	8.14%	3.79%
Wholesale Trade	All sizes	3.24%	3.43%
Retail Trade	All sizes	17.71%	9.61%
Transportation and Warehousing	All sizes	9.88%	7.63%
Information and Cultural Industries	All sizes	X	0.80%
Real Estate and Rental and Leasing	All sizes	X	4.99%
Professional, Scientific, and Technical Services	All sizes	7.51%	14.26%
Management of Companies and Enterprises	All sizes	X	1.88%
Administrative and Support, Waste Management and Remediation Services	All sizes	4.19%	4.59%
Arts, Entertainment, and Recreation	All sizes	X	1.67%
Accommodation and Food Services	All sizes	13.20%	6.24%
Other Services ¹	All sizes	12.96%	9.57%
Note: X refers to suppression due to confidentiality Source: CDER, Statistics Canada, 2017			

¹ Service industries that support the repairs and maintenance of equipment and capital used in oil and gas extraction are included in "Other Services".

Just over 95% of CF assisted firms are small businesses (less than 20 employees). Of all CF assisted firms, Retail Trade had the highest industry concentration (17.71%), followed by Accommodation and Food Services (13.20%), and Other Services (12.96%). Meanwhile, of comparable firms, Construction accounted for 17.84%, which is more than 6 percentage points higher than their CF assisted counterparts. Professional, Scientific, and Technical Services accounted for 14.26%, also more than 6% higher than the share of CF assisted firms in that industry, and the comparable group of Agriculture, Forestry, Fishing and Hunting firms totalled 10.18% of enterprises, while CF assisted firms in this industry accounted for only 4.74%.

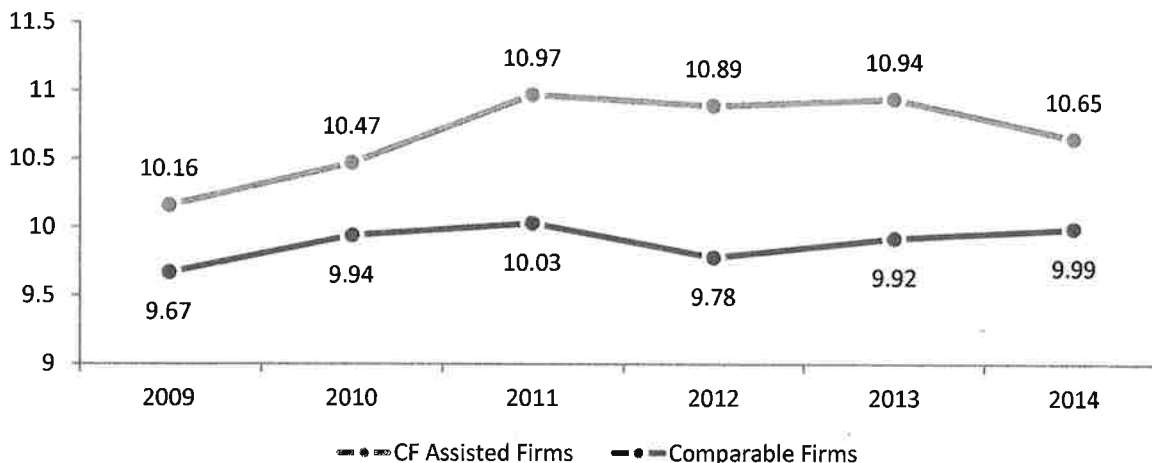
Concentration Index

The Herfindahl Index (HI) is a measure of economic diversity, as it indicates the extent to which a regional economy is dominated by a number of industries. The index ranges from 0, where several industries have small and equal shares of the market economy, to 100, where one industrial sector has perfect market composition (full specialization). Thus, a lower HI measure indicates a highly diversified economy.

In 2014, the HI for the group of CF assisted firms measured 10.65. This is a decline from last year, where the index measured 10.94. The HI has seen an increase of 0.48 since 2009, at which point it was at 10.16, which suggests that the diversity amongst CF loan clients has decreased. Since 2007, at which time it was at a low of 9.68, the HI for CF assisted firms has been rising steadily. From 2009 onwards, the average HI for CF assisted firms is 10.68.

The HI for comparable firms has also been trending upwards in recent years, but at a diminished rate. In 2014, the index measured 9.99, which is a slight increase from 9.92 in 2013. Overall, the HI at 2014 has increased by only 0.32 since 2009, when it was at 9.67. Since 2009, the average HI for the group of comparable firms is 9.89. Thus, in the past – and presently – this group of firms appears to be slightly more diversified than the group of CF loan clients.

Herfindahl Index by Year for Firms in Western Canada with less than 100 ALUs (2009-2014)



Employment Dynamics

This section investigates employment trends for firms that have received CF assistance over a five-year period and compares the results to those of the comparable group. Note that growth rates for some industries were not calculated if either the number of ALUs for 2009 and 2014 were suppressed for confidentiality. Table 3 summarizes compounded annual job growth rates for CF loan clients and comparable firms between 2009 and 2014 by industry.

Table 3: Compounded Annual Growth in Employment by Industry in Western Canada, 2009-2014

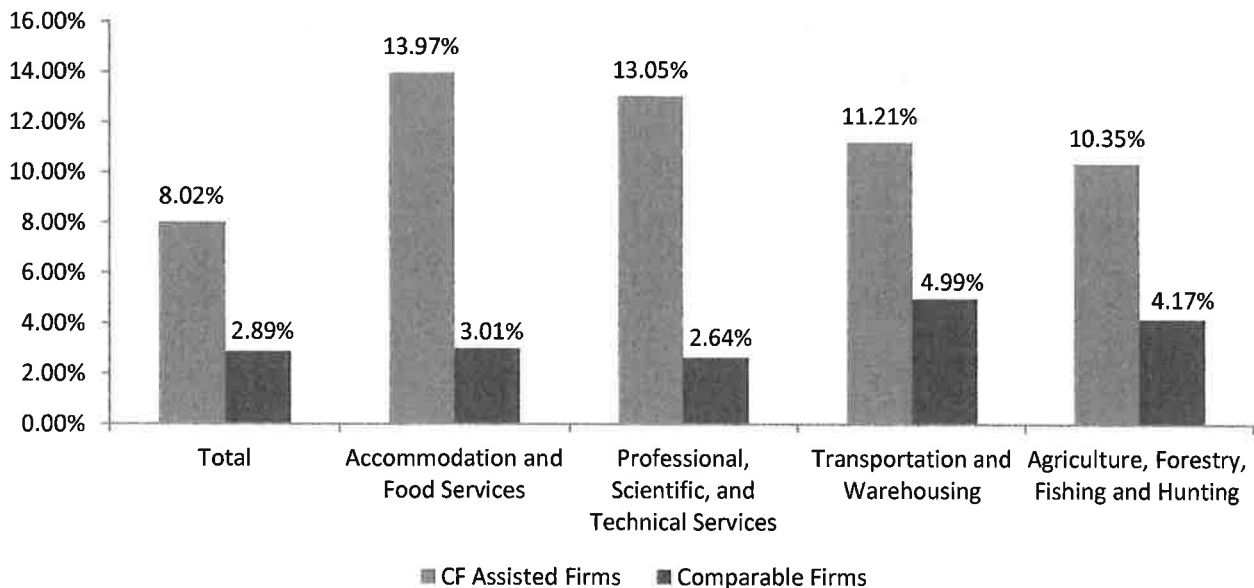
<i>Industry</i>	<i>Enterprise size (ALU)</i>	<i>CF Assisted Firms</i>	<i>Comparable Firms</i>
Total (All selected NAICS)	All sizes	8.02%	2.89%
	Less than 20 ALU's	9.50%	2.46%
	20 to 100 ALU's	5.04%	3.42%
Agriculture, Forestry, Fishing and Hunting	All sizes	10.35%	4.17%
Mining and Oil and Gas	All sizes	X	9.95%
Construction	All sizes	6.34%	3.88%
Manufacturing	All sizes	3.85%	2.63%
Wholesale Trade	All sizes	3.05%	1.53%
Retail Trade	All sizes	4.52%	0.89%
Transportation and Warehousing	All sizes	11.21%	4.99%
Information and Cultural Industries	All sizes	X	2.45%
Real Estate and Rental and Leasing	All sizes	X	0.51%
Professional, Scientific, and Technical Services	All sizes	13.05%	2.64%
Management of Companies and Enterprises	All sizes	X	-1.86%
Administrative and Support, Waste Management and Remediation Services	All sizes	8.00%	2.75%
Arts, Entertainment, and Recreation	All sizes	X	0.95%
Accommodation and Food Services	All sizes	13.97%	3.01%
Other Services	All sizes	6.91%	4.15%
Note: X refers to suppression due to confidentiality Source: CDER, Statistics Canada , 2017			

In general, CF assisted firms outpaced comparable firms in terms of job growth across most industries.

- All sizes of CF assisted firms were more successful in creating jobs than the comparable group of firms (8.02% vs. 2.89%).
- Small-sized firms (less than 20 employees) demonstrated considerable job growth of 9.50%, compared to only 2.46% in comparable firms.
- CF assisted firms in Accommodation and Food Services saw the greatest compounded annual growth measured at 13.97%, as opposed to comparable firms that exhibited job growth of 3.01%.
- While Wholesale Trade saw the least growth exhibited by CF Assisted Firms (3.05%), it was still higher as compared to comparable firms (1.53%).

For all industries (except in cases where data was unavailable due to suppression), CF assisted firms outpaced those firms in the comparable group in terms of job growth. In some industries CF loan clients outperformed the comparable group by a significant margin, such as Professional, Scientific, and Technical Services, and Accommodation and Food Services.

Compounded Annual Employment Growth in Western Canada for Firms with less than 100 ALUs (2009-2014)



This is similar to the trends displayed in the analysis of employment growth in round six, 2008-2013. CF Assisted Firms consistently saw higher compounded annual employment growth than their comparable counterparts did. Manufacturing, Wholesale Trade, Retail Trade, and Other Services industries saw diminished compounded growth in CF Assisted Firms in round seven as compared to six but increased growth in all other industries. Employment growth in comparable firms increased across most industries, with the exception of five industries (Wholesale Trade; Retail Trade; Arts, Entertainment, and Recreation; Accommodation and Food

Services; and Other Services). The ongoing, strong, positive growth in the number of jobs could be the result of an economic rebound from the aftermath of the 2008 financial crisis, with new results from 2014 demonstrating that CF-assisted firms were able to weather the economic impacts better than the comparable group. It may also be due to firms exhibiting higher growth in employment being captured in this analysis.

Business Survival Rates

Firm longevity is evaluated by using a measure of the overall business survival rate for CF assisted firms and comparable firms. For this report, business survival rates are calculated as the ratio of the number of firms that remain in the market after a specific period of time over the number of firms that were in operation in 2004. For example, the 5-year business survival rate is interpreted as the percentage of businesses that remain in the market after five years.

The chart below shows that CF loan clients in Western Canada have been more successful in remaining in business than those firms in the comparable group. Firm longevity for CF assisted firms remains higher in later years. The business survival rate for CF assisted firms was 66% for the fifth year following entry, compared to 46% for comparable firms. This is an almost identical difference (66% vs. 45%) than in last year's analysis of 2008-13 data.

**Business Survival Rate by Year After Start-Up for Firms in Western Canada
Across All Industries with Less Than 100 ALU's
(2009-2014)**

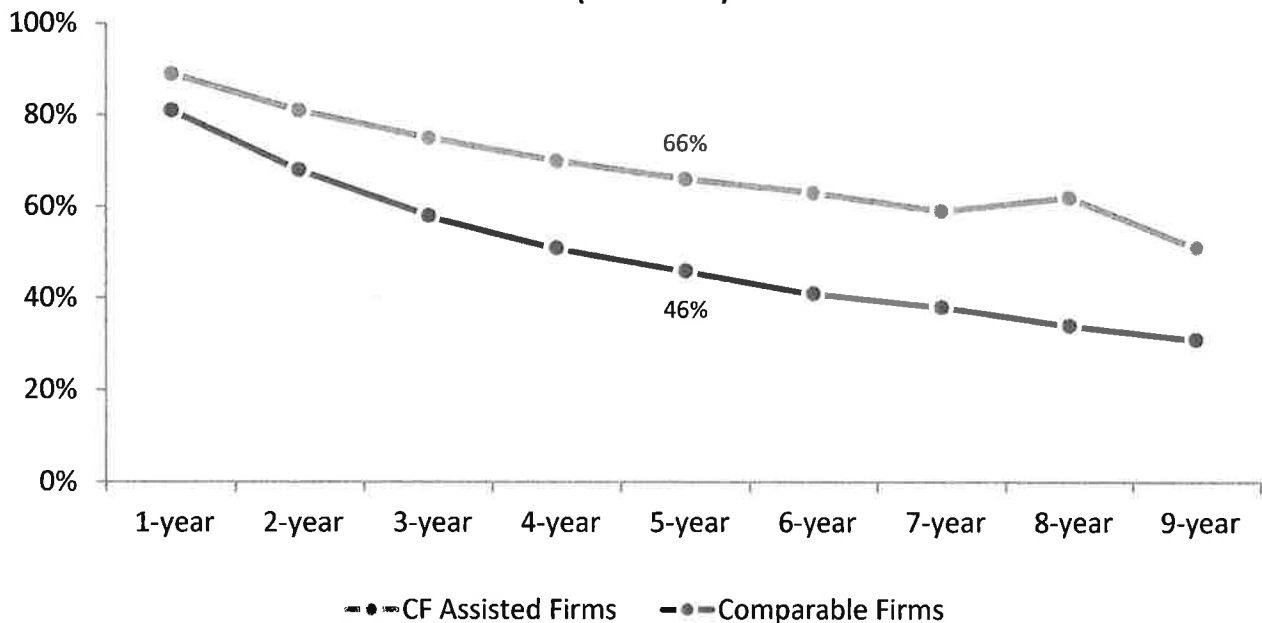


Table 4: Business Survival Rates for the Fifth Year Following Entry by Industry in Western Canada, 2004-2014

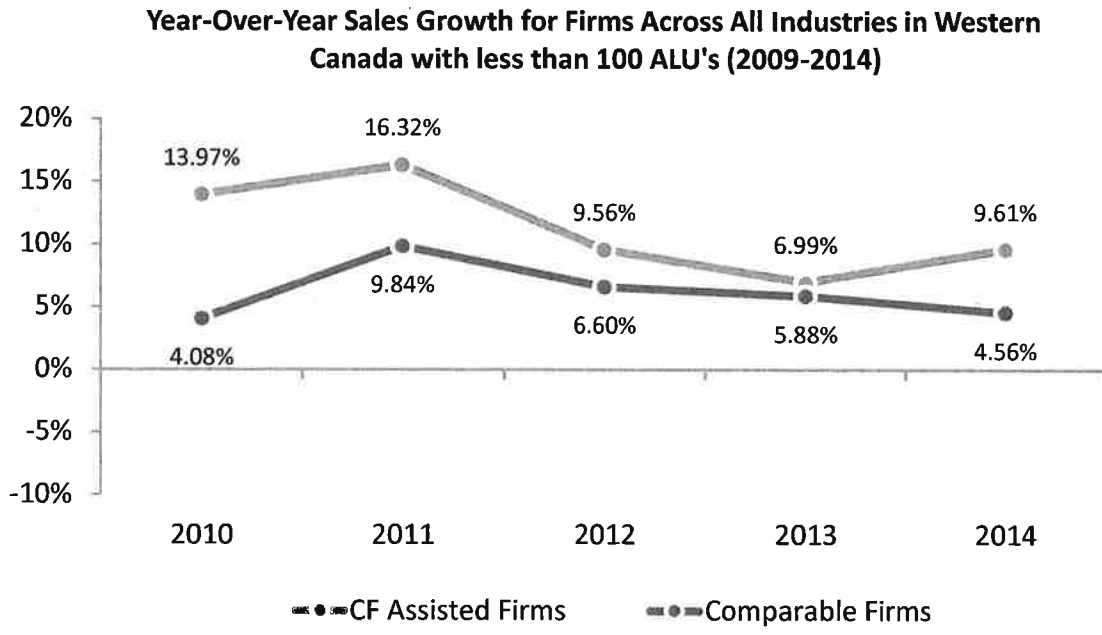
<i>Industry</i>	<i>Enterprise size (ALU)</i>	<i>CF Assisted Firms</i>	<i>Comparable Firms</i>
Total (All selected NAICS)	All sizes	66%	46%
	Less than 20 ALU's	X	46%
	20 to 100 ALU's	X	75%
Agriculture, Forestry, Fishing and Hunting	All sizes	41%	49%
Mining (excluding Oil and Gas Extraction)	All sizes	X	44%
Construction	All sizes	68%	43%
Manufacturing	All sizes	70%	48%
Wholesale Trade	All sizes	78%	47%
Retail Trade	All sizes	74%	52%
Transportation and Warehousing	All sizes	49%	46%
Information and Cultural Industries	All sizes	X	40%
Real Estate and Rental and Leasing	All sizes	X	38%
Professional, Scientific, and Technical Services	All sizes	67%	45%
Management of Companies and Enterprises	All sizes	X	35%
Administrative and Support, Waste Management and Remediation Services	All sizes	61%	48%
Arts, Entertainment, and Recreation	All sizes	X	47%
Accommodation and Food Services	All sizes	77%	52%
Other Services	All sizes	74%	51%
Note: X refers to suppression due to confidentiality Source: CDER, Statistics Canada, 2017			

There is a slight increase in suppressed data for round seven CF assisted firms as compared to round six (7 versus 6 respectively). This round, Agriculture, Forestry, Fishing and Hunting was the only industry in which CF assisted firms had lower business survival rates than firms in the comparable group. Based on the data provided, CF loan clients in industries such as Wholesale Trade, Construction, Accommodation and Food Services, and Other Services had significantly better long term survival rates than the comparable group of firms.

Financial Indicators

The financial performance of CF assisted firms relative to comparable non-assisted firms is evaluated in this section using growth in sales and labour productivity.

The graph below depicts the year over year sales growth rates for firms across all industries with less than 100 employees for both CF assisted firms and the comparable group.



Between 2009 and 2010, CF assisted firms experienced a total sales growth of 13.97%. This is in stark comparison to the 4.08% sales growth that the comparable firms experienced, most likely due to the fallout from the 2008 economic crisis. By the end of 2010, comparable firms recovered significantly; that being said, CF assisted firms still managed to outperform comparable firms by a margin of approximately 7%. In 2011, the margin had decreased though CF assisted firms still continued to outperform comparable firms significantly. In the last two years, 2012-2014, CF assisted firms were still exceeding comparable firms in sales growth – and, of note, the gap between CF assisted firms and comparable firms increased to over 5% in the final year.

Overall, it appears that CF loan clients were able to withstand initial shocks to economic activity better than those firms without CF assistance. Moreover, they were able to consistently outperform comparable firms by a healthy margin throughout all five years.

The table below depicts the dollar value of sales for firms across all industries with less than 100 employees for both CF assisted firms and the comparable group.

Table 5: Compounded Annual Growth in Sales by Industry in Western Canada, 2009-2014

<i>Industry</i>	<i>Enterprise size (ALU)</i>	<i>CF Assisted Firms</i>	<i>Comparable Firms</i>
Total (All selected NAICS)	All sizes	11.24%	6.17%
	Less than 20 ALU's	10.98%	4.96%
	20 to 100 ALU's	12.07%	7.90%
Agriculture, Forestry, Fishing and Hunting	All sizes	14.40%	9.01%
Mining and Oil and Gas	All sizes	X	10.25%
Construction	All sizes	8.60%	5.54%
Manufacturing	All sizes	8.93%	5.49%
Wholesale Trade	All sizes	8.58%	4.97%
Retail Trade	All sizes	10.64%	4.34%
Transportation and Warehousing	All sizes	13.28%	10.68%
Information and Cultural Industries	All sizes	X	8.20%
Real Estate and Rental and Leasing	All sizes	X	7.54%
Professional, Scientific, and Technical Services	All sizes	14.20%	7.37%
Management of Companies and Enterprises	All sizes	X	1.45%
Administrative and Support, Waste Management and Remediation Services	All sizes	10.07%	4.62%
Arts, Entertainment, and Recreation	All sizes	X	3.87%
Accommodation and Food Services	All sizes	12.95%	4.16%
Other Services	All sizes	12.76%	8.73%
Note: X refers to suppression due to confidentiality source: CDER, Statistics Canada, 2017			

Overall, all sizes of CF assisted firms outperformed the comparable group in terms of sales figures between 2009 and 2014.

- Sales by small-sized CFP-assisted firms increased by a compounded annual rate of 10.98% per year, over 6 percentage points higher than firms in the comparable group.
- Medium-sized CF assisted firms increased their sales by a compounded annual rate of 12.07% per year, while sales by firms in the comparable group rose by 7.90% per year.

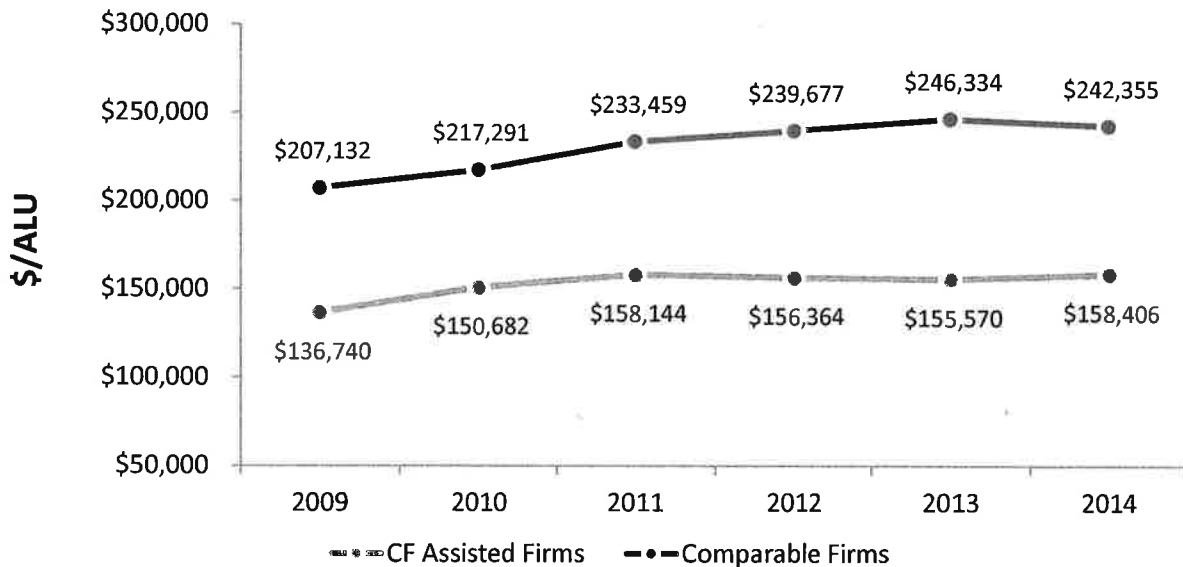
In general, CF assisted firms across all industries outperformed the comparable group in terms of sales growth. The strongest performing sectors vary slightly from those noted in round six. It is also worth noting that compared to the previous round, there is slightly greater data suppression across industries. Specifically, 5 of

the 15 industries had suppressed data for CF assisted firms. Aside from Other Services, which was a top performer in both rounds, Professional, Scientific, and Technical Services, Accommodation and Food Services, and Agriculture, Forestry, Fishing and Hunting industries show the strongest sales growth figures for round six CF assisted firms. The largest overall sales growth seen in either group belongs to the Agriculture, Forestry, Fishing and Hunting sector, outpacing firms in the comparable group with a compounded annual rate of 14.40% from 2009 to 2014, versus only 9.01% for firms in the comparable group.

Labour productivity, which is estimated using sales per worker (ALU), is an additional measure to evaluate competitiveness of small and medium-sized businesses in the West. CF assisted firms exhibited further improvements in labour productivity between 2009 and 2014.

- Sales per worker increased at a compounded rate of 2.99% per year in CF assisted firms and 3.19% in comparable firms during the five year period.
- CF assisted firms saw their highest sales per worker figure in 2013, while comparable firms saw their highest sales per worker figures in 2014. Even though both groups experienced growth, the gap between their dollars per ALU has remained fairly consistent at around \$78,000.

Sales per Worker for Firms in Western Canada with less than 100 ALU's in All Industries (2009-2014)



Sales by western SMEs were impacted by the economic recession, but both CF assisted and non-assisted firms have endured recessionary impacts. Both groups experiences similar trends in labour productivity in recent years. While comparable firms’ labour productivity increased at a slightly higher compounded annual growth rate than the CF assisted firms (2.99% vs. 3.19%), the reason as to why comparable firms continue to be more productive with their labour resources is not clear. It is possible that small CF assisted firms are more likely to be start-up businesses that have not reached economies of scale yet, whereas firms in the comparable group may be more established and therefore more experienced and efficient with their resources. However, the firm’s length of time in business is unavailable in the data provided, so this cannot be verified.

CONCLUSION

Using the data on firms in Western Canada retrieved by Statistics Canada, the performance of CF assisted firms is compared to a group of similar firms that did not receive assistance from 2009 to 2014. Indicators including industry concentration, employment dynamics, firm longevity, and sales performance are calculated and compared for both groups of firms. Though the sample size does not capture all CF clients, the results give insights as to how CF assisted firms perform relative to unassisted SMEs.

The methodology for retrieving the data for this round remained unchanged from the last round, with no modifications made to the matching process (aside from CanNor being excluded from the matching process). Overall, this resulted in either improved or equivalent rates of matching across all five RDAs. There still remains some data suppression for certain industries and overall, instances of suppression increased slightly from rounds six to seven. While an increase in data suppression does limit the ability to perform analysis, the amount of suppression is not high enough to warrant exclusion of the analysis altogether.

The data demonstrates Community Futures organizations' lending activity is making a difference. Although the comparable group continues to lend to a slightly more diversified clientele base, the CF organizations have made further strides in diversifying their clientele, according to the Herfindahl Index. CF assisted firms outperformed the comparable group in terms of job growth, firm longevity, and sales growth. The overall trend of labour productivity is both increasing and stable for CF-assisted firms. CF loan clients may remain less productive than the comparable group but the gap between the two shrunk slightly in 2014, showing that CF assisted firms' productivity is growing at a marginally higher rate than that of the comparable firms'. The reason for the gap in productivity is unclear, but it is likely due to lower economies of scale in younger CF assisted firms.

It should be noted that CF loan clients rebounded from recessionary impacts following the financial crisis of 2008 better than similar firms that did not receive CF lending. Year by year, CF assisted firms also proved capable of outperforming comparable firms in both business survival rates and year-to-year sales growth. Further analysis should continue to evaluate how each group performs over time, and whether or not the trends will deviate with time.

APPENDIX: ACRONYMS AND DEFINITIONS

ACRONYMS

ALU	Average Labour Unit
BN	Business Number
BR	Business Register
CF	Community Futures
CFP	Community Futures Program
HI	Herfindahl Index
LEAP	Longitudinal Employment Analysis Program
NAICS	North American Industry Classification System
RDA	Regional Development Agency
SMEs	Small and Medium size Enterprises
WD	Department of Western Economic Diversification Canada

DEFINITIONS

Business Register (BR): The Business Register (BR) is the central repository of information on businesses in Canada. The BR is used as the principal frame for the economic statistics program of Statistics Canada. The Business Register's role is to provide Statistics Canada with a comprehensive quality frame in terms of coverage and a set of stratification variables such as industrial classification, revenue, number of employees and total assets.

Herfindahl Index (HI): indicates the extent to which a particular regional economy is dominated by a few industries. The HI ranges from 0 (highly diversified; indicating that the economy has a large number of industries, with small and equal shares) to 100 (highly concentrated; indicating that one industry accounts for all economic activity). A positive change in the HI indicates that industrial concentration has increased, while a negative change indicates an increase in industrial diversity.

Longitudinal Employment Analysis Program (LEAP): The Longitudinal Employment Analysis Program (LEAP) is a database that contains annual employment information for each employer business in Canada, starting with the 1991 reference year. The information in LEAP is generated from the annual statements of remuneration paid (T4 slips) that Canadian businesses are required to issue to their employees for tax purposes. LEAP covers incorporated and unincorporated businesses that issue at least one T4 slip in any given calendar year, but excludes self-employed individuals or partnerships where the participants do not draw salaries.