



Western Economic Diversification Canada
Diversification de l'économie de l'Ouest Canada



Community Futures Program

Western Economic Diversification Canada Performance Report

ROUND FOUR (2006-11)

Performance Measurement 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 those results from comparable firms for the period 2006 to 2011. These indicators include industry concentration, employment growth, firm longevity, sales growth, and labour productivity growth, which are measured using data obtained from Statistics Canada.

Data suppression issues presented a number of issues when analyzing the industry concentration for CF assisted firms; however, the data show positive results:

- CFs in Western Canada were able to obtain business numbers (BN) for 3,286 active clients, more than in previous years. Of these, 2,378 (72%) clients were found in Statistics Canada's Business Register (BR), but only 1,022 (31%) were linked to both the Longitudinal Employment Analysis Program (LEAP) and the General Index of Financial Information (GIFI).
- In terms of employment growth from 2006 to 2011, CF assisted firms increased their number of employees by 8.55% annually compared to a 2.65% compounded annual employment growth rate in non-assisted firms.
- In terms of sales, from 2006 to 2011 CF assisted firms exhibited a 13.97% compounded annual sales growth rate compared to a 5.42% 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 those firms without CF assistance and that their sales growth tends to outperform sales growth for comparable firms.
- CF assisted firms exhibited stronger firm longevity than those firms in the comparable group, especially in the long run.
- According to the Herfindahl Index, a measure of industry diversification, CF organizations are lending to a slightly less diversified client base than the comparable group; however, over time the CF-assisted group of firms has made strides in diversifying its client base.

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, according to the Herfindahl Index. CF assisted firms 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).

A list was compiled and provided to Statistics Canada by each regional development agency (RDA) of CF assisted firms by ACOA, FedNor, FedDev, and WD. Using the BN, or the Incorporation Number (IN) and postal codes provided by the RDAs listings, each record was linked to Statistics Canada's BR. Only perfect matches on the BR were considered for the analysis of the industry concentration, employment dynamics, and firm longevity.

An enterprise is defined as a business unit that directs and controls the allocation of resources relating to its operations, and for which consolidated financial and balance sheet accounts are maintained. Each business defined as an enterprise in the BR has a statistical identification number called 'EnterpriseID'. Only those enterprises found in the BR that had matching records in the LEAP and GIFI were retained for analysis of financial performance

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

	ACOA	CED-Q	FedDev	FedNor	WD
Number of non-duplicate records	3,931	3,161	2,138	923	3,286
Share of firms found in the BR	3,461 (88%)	2,075 (66%)	1,476 (69%)	612 (66%)	2,378 (72%)
Share of firms found in the BR and linked to LEAP	2,595 (66%)	1,607 (51%)	1,081 (51%)	459 (50%)	1,951 (59%)
Share of firms found in the BR and linked to both LEAP and GIFI	1,332 (34%)	1,141 (36%)	634 (30%)	272 (30%)	1,022 (31%)

WD was among the most successful of RDAs in its matching process, with some of the highest number of records in the BR amongst RDAs, share of firms found in the BR, and share of firms found in the BR and linked to LEAP. WD was the median rate in the share of firms found in the BR and linked to both LEAP and GIFI.

There were 3,286 records in the client file with non-duplicate numeric identifiers. 908 (28%) of these records cannot be matched with the BR, which is less than in last year's project (which saw only 14% unmatched records). However, the match rates to GIFI and LEAP improved so the extra matches to the BR in last year's project were irrelevant because they were not used in the tabulations. Although the match rate has improved, 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 industries for sales growth numbers and business survival rates is compromised.

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 GIFI matching processes. For those firms matched to the LEAP, data for employment, payroll, and number of enterprises were only provided for the years 2006 and 2011. In contrast, financial data for firms matched to the GIFI were provided for the years 2006 through 2011. We chose to calculate measures for the share of firms by industry, penetration rates, and employment growth using the dataset retrieved from the LEAP matching process. Results for sales growth are taken from firms that were matched to the GIFI.

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 to be 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 2011 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, 2011

<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	94.20%	95.19%
	20 to 100 ALU's	5.80%	4.81%
Agriculture, Forestry, Fishing and Hunting	All sizes	3.86%	10.20%
Mining and Oil and Gas	All sizes	X	3.42%
Construction	All sizes	11.48%	17.64%
Manufacturing	All sizes	8.75%	4.03%
Wholesale Trade	All sizes	3.41%	3.95%
Retail Trade	All sizes	18.98%	9.91%
Transportation and Warehousing	All sizes	7.39%	7.15%
Information and Cultural Industries	All sizes	1.25%	0.74%
Real Estate and Rental and Leasing	All sizes	1.93%	4.92%
Professional, Scientific, and Technical Services	All sizes	5.91%	13.80%
Management of Companies and Enterprises	All sizes	X	1.83%
Administrative and Support, Waste Management and Remediation Services	All sizes	4.66%	4.93%
Arts, Entertainment, and Recreation	All sizes	3.30%	1.63%
Accommodation and Food Services	All sizes	12.16%	6.44%
Other Services ¹	All sizes	14.66%	9.40%
(X) Data suppressed for confidentiality purposes			
Source: Centre for Special Business Projects, Statistics Canada, 2014.			

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 94% of CF assisted firms are small businesses (less than 20 employees). Of all CF assisted firms, Retail Trade had the highest industry concentration (18.98%), followed by Other Services (14.66%) and Accommodation and Food Services (12.16%). Meanwhile, of comparable firms, Professional, Scientific, and Technical Services accounted for 13.80%, which is almost 8 percentage points higher than their CF assisted counterparts. Construction accounted for 17.64%, just over 6% higher than the share of CF assisted firms in that industry, and the comparable group of Agriculture, Forestry, Fishing and Hunting firms totalled 10.20% of enterprises, while CF assisted firms in this industry accounted for only 3.86%.

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 2011, the HI for the group of CF assisted firms measured 10.97. This is a slight increase from previous years, where the index measured 10.52 and 10.47 in 2009 and 2010, respectively. The HI has seen an increase of 0.74 since 2006, when it was at 10.23, which suggests that the economy diversity amongst CF loan clients is decreasing. Prior to 2011, however, the HI had been trending downwards over three years, suggesting that the 2011 HI may be an anomaly in an otherwise increasingly diverse economy.

The HI for comparable firms has also been trending upwards in recent years. In 2011, the index measured 10.03, which is a slight increase from 9.97 and 9.94 for the years 2009 and 2010, respectively. Overall, the HI at 2011 has increased by only 0.25 since 2006, when it was at 9.78. This group of firms appears to be slightly more diversified than the group of CF loan clients; however, over time the CF-assisted group of firms has made strides in diversifying its client base.

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 2006 and 2011 were suppressed for confidentiality. Table 3 summarizes compounded annual job growth rates for CF loan clients and comparable firms between 2006 and 2011 by industry.

Table 3: Compounded Annual Growth in Employment by Industry in Western Canada, 2006-2011

<i>Industry</i>	<i>Enterprise size (ALU)</i>	<i>CF Assisted Firms</i>	<i>Comparable Firms</i>
Total (All selected NAICS)	All sizes	8.55%	2.65%
	Less than 20 ALU's	10.33%	3.02%
	20 to 100 ALU's	4.74%	1.81%
Agriculture, Forestry, Fishing and Hunting	All sizes	12.03%	2.18%
Mining and Oil and Gas	All sizes	X	6.20%
Construction	All sizes	5.30%	3.77%
Manufacturing	All sizes	7.99%	1.55%
Wholesale Trade	All sizes	7.29%	2.03%
Retail Trade	All sizes	10.40%	2.60%
Transportation and Warehousing	All sizes	10.93%	2.62%
Information and Cultural Industries	All sizes	X	2.87%
Real Estate and Rental and Leasing	All sizes	3.51%	1.18%
Professional, Scientific, and Technical Services	All sizes	12.74%	2.74%
Management of Companies and Enterprises	All sizes	X	-7.02%
Administrative and Support, Waste Management and Remediation Services	All sizes	8.35%	4.50%
Arts, Entertainment, and Recreation	All sizes	1.19%	0.79%
Accommodation and Food Services	All sizes	10.15%	3.05%
Other Services	All sizes	8.30%	1.66%
(X) Data suppressed for confidentiality purposes			
Source: Centre for Special Business Projects, Statistics Canada, 2014.			

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 (8.55% vs. 2.65%).
- Small-sized firms (less than 20 employees) demonstrated considerable job growth of 10.33%, compared to only 3.02% in comparable firms.
- CF assisted firms in Professional, Scientific, and Technical Services saw the greatest compounded annual growth measured at 12.74%, as opposed to comparable firms that exhibited job growth of 2.74%.
- Arts, Entertainment, and Recreation saw little growth exhibited by both CF Assisted Firms (1.19%) and Comparable Firms (0.79%).

For key industries (as determined by share of total industry), 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 Agriculture, Forestry, Fishing, and Hunting, and Professional, Scientific, and Technical Services.

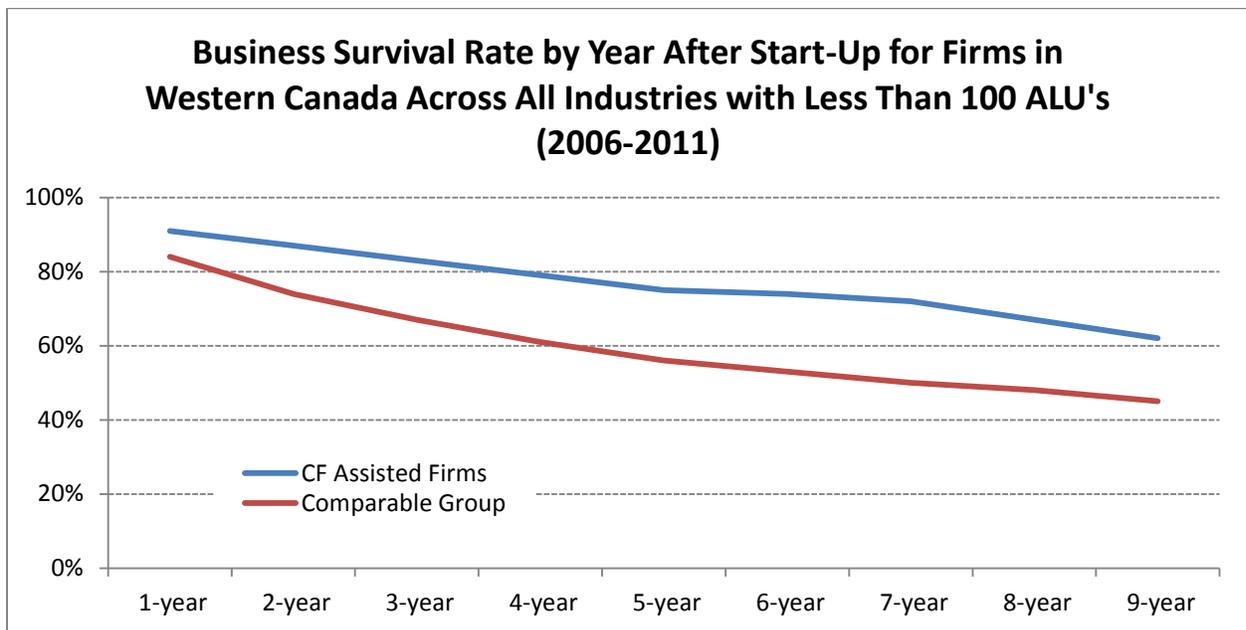


This is similar to the trends displayed in the analysis of employment growth in round 3, 2005-2010. CF Assisted Firms consistently saw higher compounded annual employment growth than their comparable counterparts did. However, it is a very different result than that of the analysis of employment growth in round 2, 2004-09, which saw the reverse for key industries for reasons assumed to be the result of the economic recession. 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 2010 and 2011 demonstrating that CF-assisted firms were able to weather the economic impacts better than the comparable group. It could also be due to firms that exhibit higher growth in employment being captured in this analysis. This turnaround in employment growth performance is most likely attributable to both an economic rebound and different data for CF assisted firms.

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 2001. 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 75% for the fifth year following entry, compared to 56% for comparable firms. This is a more pronounced difference than in the previous analysis of 2005-10 data.



CF assisted firms in Real Estate and Rental and Leasing, and Information and Cultural Industries had poorer business survival rates than firms in the comparable group. CF loan clients in industries such as Arts, Entertainment and Recreation, Other Services, Accommodation and Food Services, and Manufacturing had significantly better long term survival rates than the comparable group of firms.

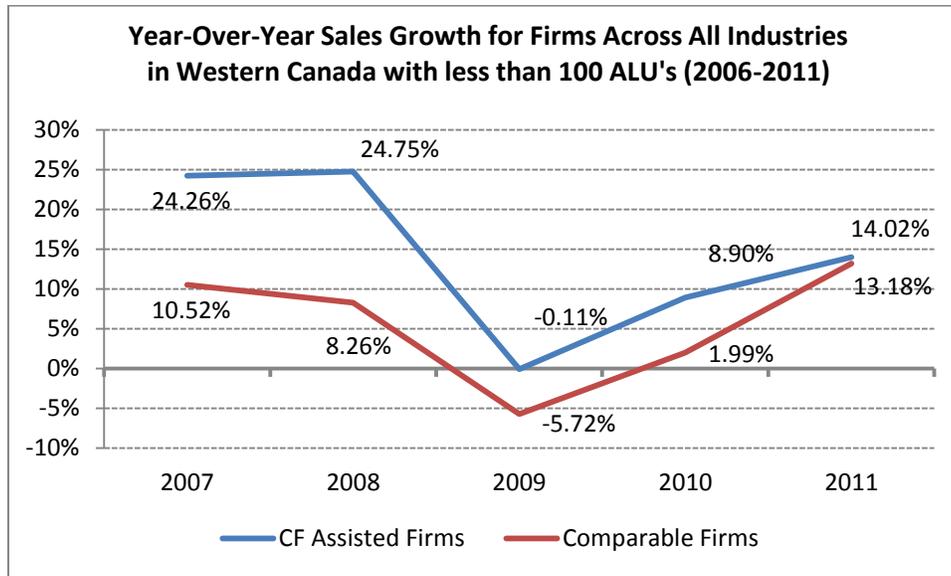
Table 4: Business Survival Rates for the Fifth Year Following Entry by Industry in Western Canada, 2001-2011

<i>Industry</i>	<i>Enterprise size (ALU)</i>	<i>CF Assisted Firms</i>	<i>Comparable Firms</i>
Total (All selected NAICS)	All sizes	75%	56%
	Less than 20 ALU's	76%	57%
	20 to 100 ALU's	46%	43%
Agriculture, Forestry, Fishing and Hunting	All sizes	76%	55%
Mining (excluding Oil and Gas Extraction)	All sizes	73%	58%
Construction	All sizes	73%	57%
Manufacturing	All sizes	75%	56%
Wholesale Trade	All sizes	83%	59%
Retail Trade	All sizes	81%	58%
Transportation and Warehousing	All sizes	62%	56%
Information and Cultural Industries	All sizes	67%	56%
Real Estate and Rental and Leasing	All sizes	58%	57%
Professional, Scientific, and Technical Services	All sizes	68%	60%
Management of Companies and Enterprises	All sizes	X	53%
Administrative and Support, Waste Management and Remediation Services	All sizes	78%	59%
Arts, Entertainment, and Recreation	All sizes	73%	54%
Accommodation and Food Services	All sizes	84%	57%
Other Services	All sizes	84%	50%
(X) Data suppressed for confidentiality purposes			
Source: Centre for Special Business Projects, Statistics Canada, 2014.			

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.



For both groups, total sales rose consistently from 2006 to 2008. However, in 2009, total sales for comparable firms declined by over 5% from the previous year, while total sales for CF assisted firms declined by 0.11% from 2008 to 2009. Sales figures for comparable firms grew at approximately the same rate as firms with CF assistance between 2009 and 2010. In general, it appears that CF loan clients were able to withstand initial shocks to economic activity better than those firms without CF assistance and that their sales growth tends to outperform sales growth for comparable firms.

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, 2006-2011

<i>INDUSTRY</i>	<i>Enterprise size (ALU)</i>	<i>CF Assisted Firms</i>	<i>Comparable Firms</i>
TOTAL (all selected NAICS excluding 211)	All sizes	13.97%	5.42%
	LESS THAN 20	11.67%	4.10%
	20 TO 100	21.54%	8.75%
11 Agriculture, Forestry, Fishing and Hunting	All sizes	13.48%	10.02%
21 Mining and Oil and Gas Extraction excluding 211	All sizes	X	5.03%
23 Construction	All sizes	9.12%	4.58%
31-33 Manufacturing	All sizes	16.23%	4.46%
41 Wholesale Trade	All sizes	16.65%	1.96%
44-45 Retail Trade	All sizes	13.19%	6.08%
48-49 Transportation and Warehousing	All sizes	25.35%	5.95%
51 Information and Cultural Industries	All sizes	X	2.38%
53 Real Estate and Rental and Leasing	All sizes	9.41%	4.04%
54 Professional, Scientific and Technical Services	All sizes	15.26%	6.69%
55 Management of Companies and Enterprises	All sizes	X	4.27%
56 Administrative and Support, Waste Management and Remediation Services	All sizes	5.05%	4.52%
71 Arts, Entertainment and Recreation	All sizes	3.48%	4.74%
72 Accommodation and Food Services	All sizes	8.61%	5.25%
81 Other Services	All sizes	17.63%	6.77%
(X) Data suppressed for confidentiality purposes			
Source: Centre for Special Business Projects, Statistics Canada, 2014.			

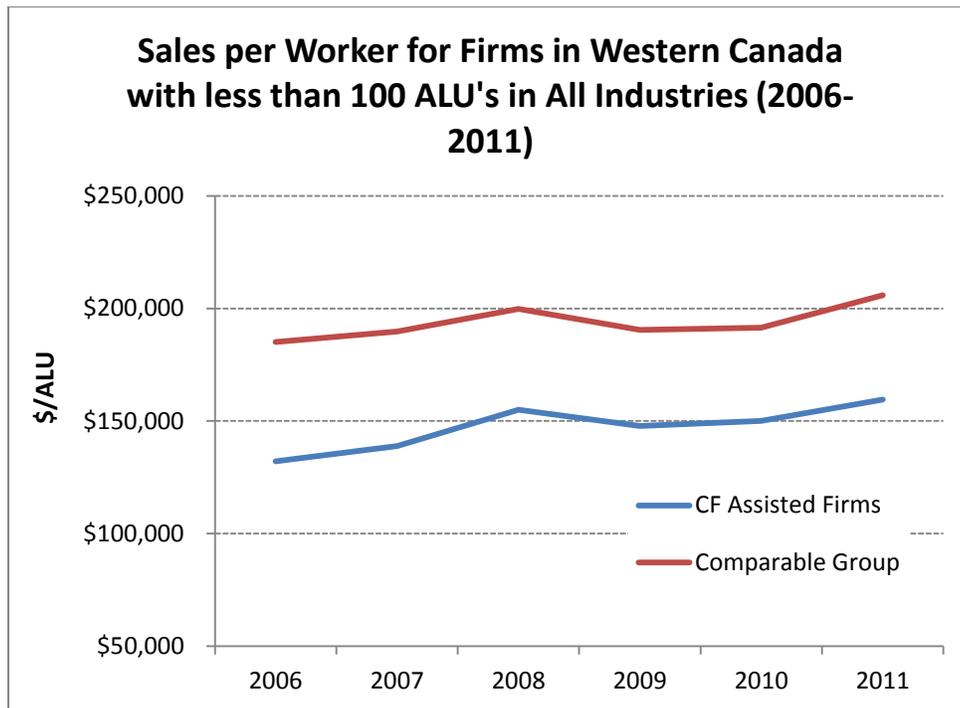
Overall, all sizes of CF assisted firms outperformed the comparable group in terms of sales figures between 2006 and 2011.

- Sales by medium sized CFP-assisted firms increased by a compounded annual rate of 11.67% per year, almost 13 percentage points higher than firms in the comparable group.
- Small-sized CF assisted firms increased their sales by a compounded annual rate of 13.48% per year, while sales by small firms in the comparable group rose by 4.10% per year.

In general, CF assisted firms across all industries outperformed the comparable group in terms of sales growth. Particularly strong sales growth was recorded in Transportation and Warehousing, Other Services, Wholesale Trade, and Manufacturing. In fact, sales growth in the Transportation and Warehousing sector outpaced firms in the comparable group by a compounded annual rate of 25.35% from 2006 to 2011, versus only 5.95% for firms in the comparable group. CF assisted firms in Other Services, Manufacturing, and Retail Trade also recorded stronger sales growth rates relative to 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 improvements in labour productivity between 2006 and 2011.

- Sales per worker increased by a compounded rate of 3.8% per year in CF assisted firms and 2.2% in comparable firms during the five year period.
- Medium-sized CF loan clients recorded strong labour productivity compounded annual growth of 8.8%, slightly over 6 percentage points higher than firms in the comparable group (with a compounded annual growth of 2.5%).



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 CF assisted firms’ labour productivity increased at a slightly higher compounded annual growth rate than the comparable group (3.8% vs. 2.2%), 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 2006 to 2011. 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, as not all firms are matched perfectly to the BR and LEAP, the results give insight as to how CF assisted firms perform relative to unassisted SMEs.

This round of data is different from previous rounds. The match rate was lower than in rounds two and three, but higher than round one. As a result, there is some data suppression for certain industries. Not all relevant data were suppressed, but some values for financial or firm information for specific years in certain industries were suppressed. This prevented the calculation of growth rates to be used for analysis in industries such as Information and Cultural Industries, Mining and Oil and Gas, and Management of Companies and Enterprises. This did not affect the strength of the analysis of business survival rates.

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, 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 stable for CF-assisted firms, but CF loan clients remain less productive than the comparable group. The reason for this 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. While these firms did not experience significant growth in sales or sales per worker from 2008 to 2011, the decline in these financial indicators was less severe for CF loan clients than for firms in the comparable group. Furthermore, growth in these measures after 2009 has been higher for CF loan clients than for the group of comparable firms. Only within the recent year did the comparable group begin to catch up to the growth seen in CF loan clients. Further analysis should continue to evaluate how each group performs over time.