

ECONOMIC IMPACT OF THE NOVA SCOTIA CO-OPERATIVES

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ABSTRACT

Nova Scotia's co-operative sector has a rich history going back to the 1860s but detailed knowledge of the role of the sector in the economy is limited. In this paper, we estimate the economic impact of co-operatives and credit unions, including GDP, income, employment, and taxes using the input-output economic model. This analysis will provide the direct, indirect and induced economic impacts of co-operative enterprises operating in Nova Scotia using data from 2011. We also examined the separate impact of co-ops in urban versus rural regions. This paper will demonstrate the significant contribution that co-operative enterprises make in both rural and urban communities across Nova Scotia.

Key words: economic impact, co-operative enterprises, Nova Scotia

INTRODUCTION

This study was carried out in 2013 and it focuses on the economic impact of the co-operative sector in Nova Scotia. It is a study of the economic impacts of co-operatives and credit unions in the province.

Co-operatives are a strong, stable and resilient sector of the economy in Nova Scotia, and have been for well over a century (MacPherson, 2009). The Britannia Consumers Co-operative was established by coal miners in Sydney

Mines, Cape Breton in the 1860s and Nova Scotia's largest co-operative, Scotsburn Dairy Group, was created in 1900 by dairy farmers in Pictou County. Agricultural societies started 'feed and seed' supplier co-operatives to meet the needs of farms and later started consumer co-ops to meet the needs of households. The Government of Nova Scotia has been involved with co-operative development dating back to the early 1900s when agricultural representatives helped farmer groups send their shipments of livestock to market. In 1906, the Farmers Co-operative Associations Act was enacted as a special part of the Companies Act. (Co-ops in Nova Scotia, 2007)

The Acadian community of Cheticamp, Cape Breton was an early adopter of the co-op model and organized a fisheries co-operative by 1915. The modern co-operative sector grew during the 1920s and 1930s as the Antigonish Movement, led by Cape Breton's Fr. Jimmy Tompkins and Fr. Moses Coady, assisted local fishers, farmers, forestry workers, and coal miners to start consumer, agricultural, and financial co-operatives.

In 1932 the Reserve Mines Credit Union, Cape Breton, obtained the first credit union charter from the Nova Scotia government. In 1934 the first meeting of Nova Scotia credit unions was held in Sydney. Many more Nova Scotia communities started credit unions and the credit union systems of Nova Scotia, New Brunswick and PEI owe their origins to the Antigonish Movement, which also had an important influence across Canada.

Turning to present day, Nova Scotia's recent JobsHere strategy and the new One Nova Scotia Report (Ivany Report), for example, recognize that social enterprises such as co-opera-

tives can contribute to job creation and wealth creation. However, detailed knowledge of the role of co-operatives (including credit unions) in Nova Scotia's economy is limited, impeding its advocacy efforts for favorable public policy. The impact of the co-operative sector in the economy has been studied in other regions, such as Wisconsin and New Brunswick, (Deller et al, 2009 and Leclerc, 2010), but not in Nova Scotia. This research study intends to provide a detailed evaluation of the economic impact of the sector in the province.

BACKGROUND AND LITERATURE

This literature review will focus on English language literature from academic peer-reviewed sources and technical reports. The literature will offer the common discourse on the role of co-operatives in the economy and will focus on the rural and urban significance of co-operative enterprises. This literature review is not exhaustive as extant literature specifically focused on the economic impact of co-operatives was found to be thin.

Co-operative enterprises use economic means to pursue social goals and therefore operate as businesses with a social purpose (Novkovic, 2012). This business model plays a major role in the social and economic fabric of communities across Canada, and particularly in Nova Scotia. For example, Zeuli and Deller, 2007, inform us that most co-operatives are created as a means of preventing market failures or to counteract unequal market power and Nova Scotia has a long history of market failures and power struggles between producers and large scale buyers. These perennial issues may partially explain the robust co-operative culture in this province.

Although Nova Scotia is an increasingly urban province, the province was built on rural communities and they remain a very vital aspect to the provincial culture and economy. Co-operatives in Canada began in rural communities as people struggled to gain control over their local economies (Fulton & Hammon Ketilson, 1992). As demographics have evolved and urban Canada has grown faster, Co-operatives now operate more enterprises in urban centers than in rural communities; however, the literature indicates that the co-operative business model remains very significant in rural areas. For example, Novkovic, 2008, indicates that co-operatives often operate in locations that are less-profitable than where other firms are willing to operate. Furthermore, many large co-operatives maintain points of service in local communities, despite the fact that these local operations have a negative financial impact on the entire operation (Leclerc, 2010). The rural nature of Nova Scotia requires the use of co-operatives to mitigate market failures and provide goods and services to those in rural communities throughout the province.

The literature indicates that co-operatives allow people in small communities to have control over their own local economies, and make choices based on the community rather than individual well-being (Fulton & Hammon Ketilson, 1992). Further research indicates that co-operatives are a tool that can lift groups, not only individuals, out of poverty (Majee & Hoyt, 2011). One way that co-operatives are able to do this is that they allow producers to maximize their income by increasing the prices paid for their outputs (Novkovic, 2008). This is very important in Nova Scotia where the economy is dependent on the fishing and agriculture sectors.

The full economic impact of the co-operative sector in Nova Scotia has never been quantified before this paper. We only find precedent in the literature for this type of study in a small number of Canadian jurisdictions, for example, New Brunswick, by Leclerc 2010, and Saskatchewan, by Ketilson et al, 1998 and Herman and Fulton, 2001. The United States literature has more studies done in more jurisdictions (Uzea, forthcoming), as well as a national study completed by Deller et al, 2009. Although measuring the economic impact of co-operatives does not provide the full picture of their significant contribution to the social and economic fabric of their communities, we feel that it is important, particularly in a province like Nova Scotia with a long and robust history of co-operative development.

Despite the important role of co-operatives in Nova Scotia they are often overlooked as an important aspect of the economy and economic development. According to the literature the role of co-operatives in the market economy is not often recognized by dominant economic approaches, yet they often achieve economic and social outcomes superior to conventional enterprises (Borzaga, Depedri, & Tortia, 2011). The recent "great recession" economic crisis and subsequent government response has highlighted the need for organizations that focus on sustainable growth and not on quick profit. Co-operatives as socially based businesses have a record of longevity and are well positioned to fill this role. A better assessment of their economic impact will help them achieve more recognition in this role.

METHODOLOGY

The study aims to complete an analysis of the economic impact of general and financial co-operatives in Nova Scotia. In this study we consider a co-operative to be an enterprise that self-identifies as a co-op. We have made an effort to conduct a census of the economic activity of the co-operative sector by collecting and analyzing the revenue and employment of all organizations that have self-identified as co-ops and registered with the Co-operatives Branch of Service Nova Scotia or with the Credit Union Central of Nova Scotia. The table below provides a sample of types of co-operative ventures operating in the province:

Table 1. Example of types of co-operative ventures in Nova Scotia

Airports	Fishing/Trawlermen	Investment funds (CEDIFs)
Art galleries	Fish-plants	Marina operators
Boatyards	Filmmakers	Museums
Bus operators	Fitness centres	Nursing homes
Credit Unions	Forestry	Poultry Processors
Dairy processors and distributors	Funeral homes	Ranchers
Daycare centres	Grocery supermarkets	Theatre productions
Doctor offices/clinics	Housing	Water utilities
Farmer's markets	Insurance brokers	

Our initial scan of annual reports published by the Co-operatives Branch of Service Nova Scotia and with Credit Union Central of Nova Scotia indicated that there are over 350 co-ops and credit unions operating in the province. These enterprises represent more than \$2 billion in assets, more than \$850 million in revenue, and more than 200,000 members. Considering that Nova Scotia's 2011 population was 922,000 (Statistics Canada, 2011), the co-operative sector attracts a significant number of producers and consumers, of a variety of goods and services. Table 2 presents an economic summary of the general, non-financial co-operative sector in Nova Scotia.

Table 2. Summary of Co-operatives in Nova Scotia, 2011

Type	Number of Co-Ops	Revenue	Number of Members	Assets	Number of Employees
Agriculture	35	502,074,480	3,215	207,855,078	1,946
Craft Products	10	915,747	154	463,950	34
Fish Products	13	46,214,033	607	8,589,571	166
Forest Products	8	4,493,447	882	1,802,312	54
Housing	71	16,395,248	1,939	75,146,995	15
Investment	21	1,542,139	2,051	21,314,187	8
Miscellaneous	2	14,633	23	7,277	0
Retail Consumer	36	131,778,195	28,325	36,363,402	334
Services	55	6,118,169	4,903	10,581,283	257
Worker Labour	40	23,625,169	2,635	12,769,540	298
	290	733,171,260	44,734	374,893,595	3,112
Credit Unions	31	118,174,615	159,347	1,954,911,000	735

Source: NS Co-operatives Branch, Co-op Atlantic, Atlantic Central

Agricultural co-ops and financial co-ops (credit unions, insurance or investments) are shown to be dominating the sector, in terms of sales and employment. For example, two of Nova Scotia's agricultural co-ops, Scotsburn Dairy Group and Farmers Dairy, were included in the list of Top 50 Canadian Non-financial Co-operatives published by the Federal Government's Co-operatives Secretariat (Top 50 Non-financial co-operatives, 2011). Farmers Dairy has since been taken over by Agropur, Canada's largest dairy co-op, but the Nova Scotia operations have remained intact and no major changes in the headquarters have taken place: no substantive change in Farmers' economic impact in Nova Scotia is expected at this time.

The Co-operatives Branch of Service Nova Scotia breaks down non-financial co-ops into 10 categories, 9 corresponding to economy subsectors and one ('Worker Labour') relating to employee owned enterprises. Considering that economic impact calculations rely on economic sectoral data, we had to further code every co-op by the North American Industrial Classification system (NAICS), using the codes used by Statistics Canada at the W level (301 industries), and also utilized in the Nova Scotia Input-Output (NSIO) system: we ended up using codes for 46 different sub-sectors to categorize all Nova Scotia co-operatives and provide sufficient granularity for economic impact calculations.

Operating an enterprise that uses capital and labor to produce goods and services creates economic activity. This economic activity generates jobs, wages, and taxes and ripples through the economy; as suppliers to the enterprise generate more revenue and more jobs, and as their employees spend their earnings on goods and services within the province. Typically the impact is measured in terms of value-added Gross Domestic Product (GDP), labour income, employment (number of jobs), and tax revenue to all levels of government.

Economists predominantly use the “Input-Output Analysis” method in order to estimate these figures for ventures or policies. This method is built on the observation that one industry’s output becomes an input for other industries: it analyzes how the direct impact of a venture affects other industries, to generate “indirect” and “induced” impacts. It also recognizes that different industries have different levels of material, capital, and labour inputs and have different levels of effect on other industries; thus using different coefficients/multipliers. A dairy processing plant, for example, uses primarily local materials and labour and it has a bigger multiplier effect on the provincial economy than a comparable size manufacturing project that is less labour intense and uses imported input materials, or a service organization that only uses labour inputs.

The “Input-output” method has been popularized by American economist Wassily Leontief and it is widely used by economists and governments throughout the world. Statistics Canada has developed Input-Output tables for the national and provincial economies and updates them approximately every five years. Using these tables, we can use the given coefficients/multipliers to estimate the effects of

co-ops on GDP, employment income, number of jobs, and taxes. This approach was used for estimating the economic impacts of co-ops in New Brunswick, as mentioned above.

For each type of industry the co-ops participate in, the economic impacts are estimated as:

- a. Direct impacts: revenue, jobs, and taxes generated by the co-ops
- b. Indirect impacts: revenue, jobs, and taxes generated by enterprises that supply the co-ops
- c. Induced impacts: revenue, jobs, and taxes generated from spending by direct and indirect employment; spending by employees of co-ops, employees of suppliers to the co-ops, and their families.

Input-Output tables issued by Statistics Canada include multipliers for direct and indirect impacts for GDP, employment, jobs, and taxes for 301 industries, but they do not provide coefficients for the induced impacts. The Ministry of Finance, Province of Nova Scotia has developed the Nova Scotia Input-Output System (NSIO) that uses the basic Statistics Canada framework of 301 industry categories, but it also estimates induced impacts: estimates direct and spinoff (indirect and induced) impacts.

It should be noted that Nova Scotia is a small open economy and coefficients used for induced impacts in larger, more self-sufficient economies would produce unrealistically high estimates of induced impacts for Nova Scotia. We have exercised caution in producing con-

servative estimates of impacts and we did not use a general induced coefficient. The Ministry of Finance NSIO model accounts for that low level of induced impacts and we were able to run our categorized co-ops revenue data through the NSIO model.

We proceeded with coding all co-operatives and credit unions using the NAICS and NSIO vector codes and we were able to obtain revenue subtotals for each of the 46 industry codes used: the Co-operatives Branch of Service Nova Scotia provided us with the revenue and employment subtotals by subsector for the cooperatives that submitted full financials in 2011 (290 co-ops) and the Credit Union Central provided us the same for the 31 credit unions operating in the province. We also obtained additional revenue data from Co-op Atlantic and The Co-operators for their Nova Scotia locations.

We summarized input data and the Ministry of Finance run our input data through the NSIO model and provided us with direct and spinoff economic impact estimates. It should be noted, however, that the NSIO model run did not provide us with impact estimates on taxes. We used the latest available Canada Input-Output multipliers for Nova Scotia (Statistics Canada, Provincial Input Output Multipliers, 2009) to estimate the production and product taxes and we used data series on household expenditures (Statistics Canada, Household Expenditures, 2010) to estimate the Induced impact on taxes: income taxes, HST, and household property taxes.

RESULTS

The economic impact estimates are summarized in Table 3 below. The results suggest that the impact of the co-operative sector in Nova Scotia's economy is substantial, with value-added economic output (GDP) of \$799 million, 11,359 jobs (full-time equivalent) and employment income of \$469 million. The co-operative sector essentially generates 2.2% of the provincial GDP and provides 2.5% of all jobs in Nova Scotia (Statistics Canada, Census 2011). The percentage may not look substantial, but a sector responsible for 11 thousand jobs is a significant one: one could compare the co-ops jobs figure of 11,359 to the 9,314 Nova Scotia provincial government jobs.

The impact analysis also indicates that Nova Scotia's co-operative sector generates \$142 million in tax payments to all levels of government.

Table 3. Economic Impacts of Nova Scotia's Co-operative sector, 2011

	Direct	Spinoff	Total
Economic Output (GDP, in \$000s)			
General Co-Ops	260,909	338,442	\$ 599,351
Credit Unions & Insurance	104,854	94,444	199,298
			\$ 798,649
Jobs (FTEs, person-years)			
General Co-Ops	4,434	4,495	9,379
Credit Unions & Insurance	1,098	882	1,980
			11,359
Household Income (\$000s)			
General Co-Ops	173,336	196,217	\$ 369,553
Credit Unions & Insurance	60,773	39,023	99,796
			\$ 469,349
Taxes (\$000s)			
Production taxes (Stats Can, Provincial I-O multipliers)	\$ 16,528		\$ 16,528
Product taxes (Stats Can, Provincial I-O multipliers)	5,721		5,721
Household Income Taxes (Stats Can 202-0501, 202-0707, 203-0001 2010)		73,218	73,218
Household HST (Stats Canada, Product Margins table)		36,552	36,552
Household Property Taxes (Stats Can 384-0040)		9,968	9,968
			\$ 141,987

It is well known that the roots of the co-operative movement are in agriculture and in rural communities and we have attempted to also classify co-operatives as urban or rural; we define rural as co-ops that are headquartered in a location that is not a town or a city. We are not aware of any statistical analysis that has attempted to analyze the Urban-Rural split on economic impacts in the province, but considering the rural nature of Nova Scotia, we believe there is value in analyzing separately the economic activity of the co-operative sector in rural areas. An analysis is shown on Table 4 below for the general Co-ops, using raw figures from the annual returns of the co-ops (Co-Operatives Branch, 2011):

Table 4. Rural vs. Urban Summary of Co-operatives

Location	No of Co-ops	Revenue (\$)	Assets (\$)	No of Members	No of Employees
Rural	136	472,100,660	181,178,315	34,078	2,045
Urban	154	261,070,600	193,715,280	10,656	1,067
	290	733,171,260	374,893,595	44,734	3,112

The above indicates that rural co-ops account for 3/4 of total co-op membership and for 2/3 of co-op revenue and number of employees.

On this analysis, we relied on the raw data only, as one cannot estimate the indirect and induced impacts along the rural-urban line easily. The coefficients and multipliers we used apply to the economy of the whole province: suppliers to the rural co-ops may be located in urban areas and employees of rural co-ops may make purchases in urban areas also. However, we believe there is significance in the fact that co-ops have a big rural presence and that on average they have been operating for many years. It should also be noted that 30 of the 82 Credit Union branches in Nova Scotia are located in communities where there is no other financial institution present. (Credit Unions in Nova Scotia, 2007)

LIMITATIONS

We followed the commonly accepted methodology for analyzing economic impacts and the results are subject to limitations generally associated with estimating economic impacts. The first limitation is that this analysis measures the impact of the co-operatives that report revenue to the Co-operatives Branch of Service Nova Scotia. There were approximately 40 co-operatives that did not report revenue in 2011. However, the authors understood that the largest co-operatives were indeed reporting and the majority of those not reporting had little or no revenue to report: the large dairy co-ops and the co-op supermarkets account for more than 80% of the sector's revenue volume and they have reported.

A limitation arises on using estimates for sector inter-provincial revenues: accounting for revenues in the province by all co-operatives, including the co-operatives that have headquarters in another province, and for out-of-province revenues of Nova Scotia co-operatives. The researchers obtained revenue figures from a number of co-op organizations and believe the revenue figures used are accurate.

Another possible limitation comes in the coding of co-operatives into the NAICS industry codes used in the Statistics Canada multipliers tables and in the NSIO codes used by the Nova Scotia Ministry of Finance model to perform the input-output analysis: the authors had to assign the codes, by reviewing profiles of the co-operatives. Special care was taken to try to eliminate subjectivity, by having two researchers review the coding and we believe it accurately reflects the industry sector of each co-operative.

Co-operatives are democratically governed and are locally rooted: they tend to source their inputs from local suppliers and distribute their profits to their local members; added spinoffs that magnify their economic impact in the province. A recommendation for future research is to study the magnifying effect of local sourcing of inputs and local distribution of profits for the co-operative sector.

CONCLUSION

This study fills an important gap in the existing co-operative literature, by quantifying the size of the sector in Nova Scotia. There have been a few studies of the social economy in Nova Scotia, but not a full economic impact study of the co-operative sector. This study is an attempt to estimate the direct, indirect, and induced economic impact of both non-financial and financial co-ops in the province. It provides estimates of the sector's impact on jobs, on employment income, on value-add GDP, and on taxes to all levels of government. The study demonstrates that the co-operative sector is a significant part of the provincial economy, comparable to the impact of the provincial public service. The contribution of the sector is even larger than the estimates we provided because we did not attempt to estimate the social impacts of the sector or the magnifying economic effect brought by the organizational structure of the co-operatives.

REFERENCES

- Atlantic Credit Union Central ,” Credit Unions in Nova Scotia Through the Years”
<http://atlanticcreditunions.ca/about-us/history/nova-scotia/> [Accessed Jan 12, 2013]
- Borzaga, C., Depedri, S., & Tortia, E. “Organisational Variety in Market Economies and the Role of Co-operatives and Social Enterprises: A Plea for Economic Pluralism”, *Journal of Co-operative Studies*, 19-30, (2011)
- Canadian Cooperative Association, “Co-ops in Nova Scotia”, 2007
- Co-Op Atlantic, 2011 revenue data for Nova Scotia Co-Op Atlantic stores provided by Public Affairs office of Co-Op Atlantic, October 2012
- Co-Operatives Branch, Access Nova Scotia, 2011 co-op data
<http://www.novascotia.ca/snsmr/pdf/ans-rjsc-co-ops-ns.pdf> [retrieved in January 2013]
- Deller, S., Hoyt, A., Hueth, B., & Sundaram-Stukel, R. “Research on the Economic Impact of Cooperatives”. Madison: University of Wisconsin Center for Cooperatives, 2009
- Fulton, M., & Hammon Ketilson, L. “The Role of Cooperatives in Communities: Examples from Saskatchewan”, *Journal of Agricultural Cooperation* , 15-42, 1992.
- Herman, R. and M.E. Fulton (2001). *An Economic Impact Analysis of the Cooperative Sector in Saskatchewan: Update 1998*, Saskatoon, SK: Centre for the Study of Cooperatives.
- Ketilson, L., M. Gertler, M. Fulton, R. Dobson, and L. Polsom (1998). *The Social and Economic Importance of the Cooperative Sector in Saskatchewan*, Saskatoon, SK: Centre for the Study of Cooperatives, June.
- Leclerc, A., “ The Socioeconomic Impact of the Co-operative Sector in New Brunswick “. Edmunston: Cooperative de developpement regional - Acadie, and the New Brunswick Co-operative Enterprise Council, 2010
- MacPherson, I. ” A Century of Co-operation”. Canada: Canadian Co-operative Association, 2009
- Majee, W., & Hoyt, A. “Cooperatives and Community Development: A Perspective on the Use of Cooperatives in Development”, *Journal of Community Practice*, 48-61 (2011)
- Novkovic, S. “Defining the co-operative difference”, *The Journal of Socio-Economics* , 2168-2177, (2008)

- Novkovic, S. (2012). The Balancing act: Reconciling the economic and social goals of co-operatives. In *The Amazing Power of Cooperatives*, texts selected from the international call for paper proposals (pp. 289-299). Quebec: Quebec 2012 International summit of cooperatives.
- Rural and Co-operatives Secretariat , Top 50 Non-financial Co-operatives in Canada in 2010, Government of Canada, 2011
- Statistics Canada, Census 2011 for Nova Scotia.
<http://www12.statcan.gc.ca/census-recensement/2011/as-sa/fogs-spg/Facts-pr-eng.cfm?Lang=Eng&GC=12> [retrieved in October 2014]
- Statistics Canada, Provincial Input-Output multipliers, Industry accounts Division, 2009
- Statistics Canada, Final Demand Product Margins table, Industry accounts Division, 2009
- Statistics Canada, Household Expenditures, CANSIM tables 202-0501, 202-0707, 203-0001, 2010
- Uzea, N. (forthcoming). Methodologies to Measure the Economic Impact of Cooperatives: A Critical Review, Measuring the Co-operative Difference Research Network Working Paper.
- World Co-operative Monitor. (2011). Exploring the Co-operative Economy- Report 2013, by International Co-operative Alliance.
http://euricse.eu/sites/euricse.eu/files/wcm2013_web_o.pdf [Retrieved January 20, 2014]
- Zeuli, K. and S. Deller (2007). Measuring the Local Economic Impact of Cooperatives, *Journal of Rural Co-operation*, 35(1): 1-17.