

A Sober Reminder

Economic Impacts of Liquor Store Privatization in Small Town Saskatchewan

By Matthew Campo



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February 2016

About the Author

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Acknowledgements

Matthew would like to give special thanks to Hugh Grant and the reviewers who provided feedback on earlier drafts of this report.

Cover photo credit: *The Davidson Leader*

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Printed copies: \$10.00. Download free from the CCPA website.

ISBN 978-1-77125-267-6

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Contents

Privatizing Alcoholic Product Retailing in Saskatchewan	4
Introduction	4
Background: Alcohol Product Retailing in Saskatchewan.	5
The Move to an Expanded Private Retail System	5
The Debate: Should We Privatize Alcohol Retail?.	6
Effect of Privatization on Government Revenues	6
Privatization Impact: Wages, Employment and Municipal Revenue	7
Community Impacts: Rural Liquor Store Privatization	8
SLGA Liquor Store to Rural Franchise	8
Economic Impact: Employment	9
Economic Impact: Labour Income.	11
Economic Impact: Municipal Revenue	12
Conclusion	14
Appendix A: Use of Input-Output Multipliers	16
Endnotes	18

Privatizing Alcoholic Product Retailing in Saskatchewan

Introduction

The Government of Saskatchewan recently announced plans to expand the private retail system for liquor sales by privatizing over half of the 75 government-owned and operated liquor stores in Saskatchewan and allowing 12 new privately-owned stores to open across the province. It has been justified as a move to increase the efficiency of the liquor retailing system and provide more selection and choice for consumers. An expanded private system would affect approximately 196 employees, or 102 full-time equivalent jobs, at 40 government owned liquor stores across the province.

Prior to this announcement, the Government of Saskatchewan privatized liquor sales in four rural municipalities, and gave existing retailers in these communities exclusive rights to sell liquor

as Saskatchewan Liquor and Gaming Authority (SLGA) franchise stores. The municipalities affected by these changes, announced in April 2014, were Langenburg, Ituna, Kerrobert and Pontoix.

In evaluating the proposed expansion of the private alcoholic beverage retail system to rural communities, it is critical to evaluate the economic effects of privatization on the four rural towns that have already experienced it. This report will be an important contributing factor to the development of informed policies for liquor retail expansion in Saskatchewan. The following sections will contain a background on the privatization in Saskatchewan, and then an economic study which will contribute to our understanding of the impact that privatization has on labour income, employment and municipal revenue in rural Saskatchewan towns.

Background: Alcohol Product Retailing in Saskatchewan

The SLGA is a Treasury Board Crown Corporation responsible for the distribution, control and regulation of liquor across Saskatchewan. A mixed retail environment consisting of government operated outlets and several forms of private retail outlets administer the sale of alcohol products in the province. There are four main points for alcoholic beverage sales, which include government operated retail stores, and private sales carried out by franchises, off-sale retailers and private full-line liquor stores. The provincial government also plays a primary role in the warehousing and wholesale of alcohol, supplying both public stores and private retailers through a retail mark-up system.

The Move to an Expanded Private Retail System

The provincial government has outlined the need for an expanded private retail system as it looks to provide consumers more choice, more convenience and better pricing. Furthermore, these proposed changes are intended to avoid future investment in developing and operating government liquor stores, and to free up funds for other government priorities such as education, healthcare and infrastructure development.¹

The premise behind this strategy has been to identify government-operated retail locations that have relatively high operating costs and transfer ownership to private retailers. This will allow the government to eliminate their retail involvement in the sale of alcoholic products and generate profits by focusing on their wholesale operations and mark-ups charged to private retailers.

As part of the privatization process, the provincial government plans to overhaul existing liquor regulations to create a more level playing field for retailers in the alcohol market by adjusting mark-up rates and offering the same wholesale price to all private retailers. The SLGA's system of "franchise" stores — which granted existing businesses such as grocery stores the right to sell liquor at SLGA prices — will be eliminated under this plan; all private liquor stores will operate independently of the SLGA and set their own prices. However, communities of less than 2,000 people — a category to which 27 of the 40 stores facing privatization belong² — will still be allowed to replace their SLGA stores with private retailers operating out of established business. Therefore, although future privatizations of liquor stores in rural communities will not follow the same regulatory model as what occurred in the four towns studied here, the economic impacts are likely to be very similar.

The Debate: Should We Privatize Alcohol Retail?

Privatization of government monopolies on alcohol retailing has been a hot-button provincial issue for many decades in Canada. The basic economic argument for privatization follows that bureaucracy in the private sector is more efficient than bureaucracy in the public sector. In theory, privatization will create efficiency gains that allow government to enhance their profitability. These additional profits will then be used to complement other government priorities such as healthcare, education and infrastructure development. In addition, this privatization can inject an element of competition into a market that may allow consumers to have easier access to a wider selection of alcohol products. It is important to keep in mind that alcoholic beverage retail privatization is a multi-dimensional issue that extends from evaluating the actual impact privatization has on government revenues to social implications such as crime and healthcare. This section will provide a review of existing publications relating to alcohol retail privatization and the public policy debate over liquor store privatization.

Effect of Privatization on Government Revenues

Government revenue from private alcohol sales are derived from mark-ups, or taxes, collected on wholesale alcohol sales to private retailers that come in the form of an ad-valorem taxes or unit taxes. The Saskatchewan liquor system currently operates under an ad-valorem structure whereby

mark-ups are determined on a percentage of value basis, whereas other provinces such as Alberta use an easier to administer flat-rate, or unit tax, for each alcoholic beverage type. Proposed changes to Saskatchewan's liquor retail system will affect the percentage taxes charged to retailers.

On theoretical grounds, there is reason to believe that under a private sales model that government profitability will be lower, relative to a mixed public liquor model. A private retail system consists of fragmented private outlets that require higher rates of return on their capital costs relative to liquor control boards.³ This means that liquor control boards can be more profitable as they have the ability to secure the benefits of economies of scale, or cost advantages due to enterprise size, which cannot be realized by small private businesses. As a result, having a large public entity within the liquor retail system can foster a retail environment that ensures lower costs and socially responsible alcohol prices. In terms of the four privatized rural stores, a recent report highlighted that although the provincial government projected savings of \$750,000; calculations have shown that these four locations yielded a net savings to the provincial government of \$138,082, or just 0.05% of the SLGA's net income for that year.⁴ Although the actual savings are much lower than projected savings, this can be due in part to the fact that government removed full-selection rural liquor stores and replaced them with franchises that provide different selection.

Privatization Impact: Wages, Employment and Municipal Revenue

There is considerable evidence which shows that privatization will lead to lower wages. For example, public liquor store employees in Saskatchewan earn an average of approximately \$18.08 per hour whereas private liquor store employees earn \$12 per hour.⁵ In the context of liquor privatization, it was found that after privatization in Alberta, private liquor store employees were paid a wage equal to half of the wage paid to top scale Alberta Liquor Control Board (ALCB) employees.⁶ As a result, it is fair to conclude that privatization will eliminate well-paying job opportunities and if any new jobs are created, they will pay wages and benefits at a much lower rate.

The impact that privatization has on employment will depend on how public entities are integrated into the private sector. In Alberta, it was found that privatization increased the number of private liquor stores opening which tripled the number of jobs available in private liquor stores.⁷

However, increases in employment opportunities in Alberta do not necessarily mean that similar effects will be achieved in rural Saskatchewan. This is due to the fact that privatization of rural Saskatchewan liquor stores result in the transfer of sales from a single public store to a single, existing business. With this unique development in mind, this merits further investigation into the employment effects in Saskatchewan.

The literature covering the impact that liquor store privatization has on municipal revenue is scarce. While privatization may be part of a larger effort to ease budgetary and debt pressures, it can easily have the opposite effect. The sale of profitable government assets, such as liquor stores, will reduce operating costs; however, it has the potential to create savings for the government at the expense of individual income and employment. In particular, if individuals in rural communities are losing jobs and reducing spending, all levels of government will likely see less tax revenue and as a result the fiscal benefits of privatization may be outweighed by costs such as these.



Former SLGA store in Ituna has remained empty for over a year since its closure.

Photo credit Sasha-Gay Lobban

Community Impacts: Rural Liquor Store Privatization

This section will explain the transition from SLGA liquor stores to privately owned liquor franchises. This section will also examine the economic impact of alcoholic product sale privatization on employment and labour income for four rural municipalities in Saskatchewan. Using results from the economic impact analysis, this will provide an opportunity to discuss additional impacts that privatization can have on municipal revenue and services.

SLGA Liquor Store to Rural Franchise

Prior to privatization, government-operated liquor stores in small rural towns require approximately one full-time employee and an additional two part-time employees to operate a retail location. This coincides with four full-time and eight part-time positions that were lost in Langenburg, Ituna, Kerrobert and Ponteix due to privatization.⁸

In terms of product selection, rural government stores carry approximately 500 different products that are subject to SLGA pricing requirements, which state that retailers must sell for a price above social minimum.⁹ In addition, the prices at these rural retail locations must be consistent with prices at all other SLGA retail stores. In terms of store hours, government liquor stores are subject to limited hours of 9:30 am to 9:00 pm Monday to Saturday and closed on Sunday in rural areas.¹⁰

Upon privatization, rural franchise locations are not required to hire any additional employees

provided that employees involved in the sale and handling of alcohol are 19 years of age or older. Franchises are responsible for training employees to ensure that alcohol is not sold to minors and individuals who appear to be intoxicated. Based on the experience of other provinces that privatized liquor retail sales; it is fair to assume that employees working at private locations receive substantially lower wages than SLGA employees. Rural franchises are also required to carry a minimum of 100 different products at any given time, including 45 unique spirits, 25 different wines, 20 liqueurs and 10 refreshment beverages.¹¹ All product orders must be executed through the SLGA at designated discount rates. Franchises are allowed to have slightly longer hours of operation between 8:00 am to 10:00 pm Monday through Sunday; however, franchises are free to pick their own hours within those limits.

Based on the structure of government and private liquor stores, the expected net effects of the transition from SLGA retail stores to franchise outlets in rural communities will be lower wages, reduced employment, and a tradeoff between longer hours and reduced quality of service. Lower employment, and resulting income, in these communities has the potential to create negative spinoff effects for the local economy whereby those without jobs may be forced out of the labour market, move to neighbouring communities for work or accept local jobs paying lower wages. Since spending is what drives the local economy, any losses in income will translate to reductions in spending that are harmful to the economy and can extend to having adverse effects on municipal revenue and services.

Economic Impact: Employment

Using Statistics Canada Input-Output multipliers it is possible to conduct an economic impact analysis on employment effects for recently privatized rural SLGA liquor stores. These multipliers are commonly used to evaluate the economic impacts on regional economies. For example, Input-Output multipliers are available for each industry in Canada and they assess the impact that changes in industrial output or spending have on gross domestic product, labour income, employment, exports and imports. For the purpose of this analysis, industry code BS445000 (Food and Beverage Stores), which includes subcategory code 4453 – Beer, Wine and Liquor Stores, has been identified as the industry in which liquor retail stores operate according to Statistics Canada North American Industry Classification System (NAICS) codes.¹²

The basic premise of economic multipliers is to identify economic impacts across the entire economy as changes in one industry can affect other businesses and household spending. These effects are commonly referred to as direct, indirect and induced effects. In the case of liquor store privatization, direct employment effects relate to job losses associated with privatization. For example, the closure of a rural government liquor store would have a direct effect of approximately one full-time and two-part time job losses. Any direct job losses are recorded in terms of full-time equivalency that records the cumulative number of hours worked in terms of full-time positions.

Indirect employment effects resulting from privatization include any job losses in industries or businesses that provide services to government liquor retail stores. For example, this can include any business input such as maintenance workers that service the government liquor store facility or those who deliver products to these liquor stores.

Induced effects, or spending effects, encompass any impact that reductions in employment and labour income will have on spending. When people spend their money they are supporting jobs.

It is important to note that Input-Output tables do not provide one specific figure for multiplier effects. Instead, two different calculations are used to estimate a range of possibilities. To briefly explain, this analysis will use two formulas, Type I and Type II, to estimate a range of economic impact possibilities. Type I estimates include direct and indirect impacts, and Type II estimates include direct, indirect and induced impacts.

The combination of direct and indirect effects, Type I effects, understate economic impacts because it ignores the effects of changes in household spending on the economy. Type II calculations actually overstate the economic impact because of rigid assumptions about labour incomes and consumer spending. Using a method that calculates a lower and upper bound of possibilities, we will be able to isolate any economic impacts, indirect and induced effects that arise from direct job losses. For precise formulas and explanations, see Appendix A.

The first step in analyzing the impact that privatization has on employment involves establishing how many full-time equivalent jobs are employed at each rural liquor store. In total, the closure of the Langenburg, Ituna, Kerrobert and Ponteix SLGA locations resulted in the job loss of four full-time and eight part-time employees, or 6.6 full-time equivalent jobs.¹³ Since one full-time job represents one-full time equivalent job, we are left with 2.6 full-time equivalent jobs for eight part-time employees. Hours for part-time employees are not guaranteed, these full-time equivalents will be distributed to each store based on the proportion of total salaries and benefits each store paid to employees.

Using average annual wages over the time period spanning 2011 to 2014, Table 1 shows the proportion of total wages paid by each rural liquor store under investigation by dividing average wages by total average wages. Table 2 uses this proportion of total wages as weights to accurately reflect full-time equivalent employment at each location for the remaining 2.6 full-time equivalent (FTE) jobs shared by eight part-time workers.

Using this approach, Table 2 displays the number of full-time equivalent employees working at each SLGA liquor location. These calculations yield that Langenburg employs 1.72 FTE, Ituna employ 1.63 FTE, Kerrobert employs 1.65 FTE and Ponteix employs 1.60 FTE. These employment numbers are now ready to be analyzed using Input-Output multipliers.

Table 4 at the end of this section provides a breakdown of employment impact calculations for each rural municipality under analysis. Using

the full-time equivalents established above, it is then possible to calculate Type I and Type II effects by multiplying the full-time equivalent value by Type I multiplier equal to 1.11 and a Type II multiplier equal to 1.22.

For Langenburg, these calculations show that a loss of 1.72 full-time equivalent jobs will result in total job losses of between 1.91 FTE to 2.10 FTE. In Ituna, a loss of 1.63 full-time equivalent jobs will result in a total job loss of between 1.81 FTE to 1.99 FTE. In Kerrobert, a loss of 1.65 full-time equivalent jobs will result in total job losses of between 1.83 FTE and 2.01 FTE. In Ponteix, a loss of 1.60 full-time equivalent jobs results in total job losses of between 1.78 FTE and 1.95 FTE.

In total, this analysis shows that privatization of government liquor stores has economic impacts that extend beyond the direct elimination of 6.60 full-time jobs. Specifically, these 6.60 full-time jobs have indirect and induced effects that employ an additional 0.73 FTE to 1.45

Table 1: Calculating Full-Time Equivalent Employment

	Full-Time Employees	Part-Time Employees	Average Annual Wages	Proportion of Total Wages
Langenburg	1	2	\$118,341	27.54%
Ituna	1	2	\$104,297	24.27%
Kerrobert	1	2	\$107,259	24.96%
Ponteix	1	2	\$99,784	23.23%
Total	4	8	\$429,681	100%

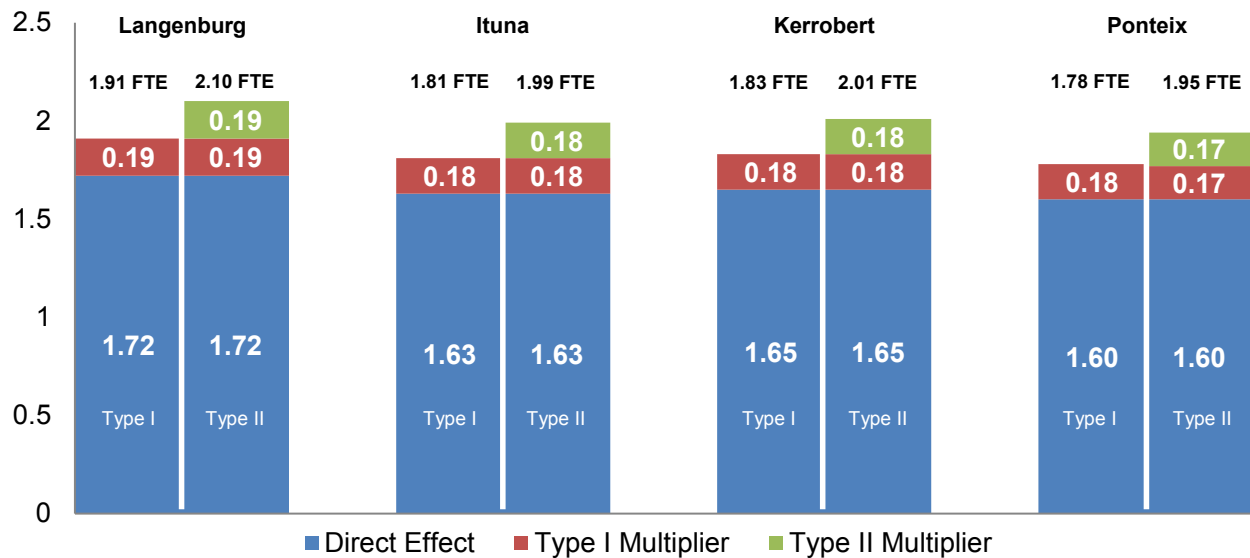
Source: SLGA Store Operating Summary as of March 2014

Table 2: Calculating Full-Time Equivalent Employment

	Full-Time Employees	Part-Time Employees	FTE at Each Store	Total FTE at Each Store
Langenburg	1	2	1 + (27.54% x 2.6)	1.72
Ituna	1	2	1 + (24.27% x 2.6)	1.63
Kerrobert	1	2	1 + (24.96% x 2.6)	1.65
Ponteix	1	2	1 + (23.23% x 2.6)	1.60
Total	4	8	4 + (100% x 2.6)	6.60

Source: SLGA Store Operating Summary as of March 2014

Figure 1: Direct, Indirect, and Induced Impacts on Full-Time Equivalent (FTE) Employment



FTE positions. This type of analysis shows employment in this industry has spin-off effects that create jobs in other industries and generate income for individuals that are re-spent in the economy to create even more jobs. It is clear to see that privatizing rural liquor stores has negative impacts on the economy that range between 7.33 to 8.05 full-time equivalent positions being eliminated. While one could argue that privatization increases employment, albeit at a lower wage rate, there is no evidence to suggest that privatization has increased employment in these specific locations.

Economic Impact: Labour Income

The next step of this analysis will use labour income multipliers to identify the economic impact that privatization has had on total wages paid to those employed in the beverage retail sector. These multipliers will yield direct, indirect and induced effects that changes in wages have on the Saskatchewan economy. In the case of liquor store privatization, direct effects include losses of wages for liquor store employees.

Indirect effects include the wage changes for industries that are in some way connected to alcohol beverage retail. For example, a closure of SLGA stores may have indirect effects on jobs, and labour income, related to supplying the liquor store and other operations. Induced effects include the impact that loss of labour income will have on household spending that is a source of wages for other individuals.

Table 4 at the end of this section provides a breakdown of labour income impact calculations for each rural municipality under analysis. Using average annual labour income for each location, it is then possible to calculate Type I and Type II effects that correspond to changes in labour income by multiplying average labour income by a Type I multiplier equal to 1.17 and a Type II multiplier equal to 2.01. It is important to keep in mind that Type I effects are an underestimate and Type II effects are an overestimate, resulting in the true loss to the economy to be somewhere between Type I and Type II effects. It is not evident that any new employment was created after privatization of these stores and these figures take this assumption into account.

Using average wages, the shutdown of the Langenburg liquor store will result in a loss of labour income of approximately \$118,341 which translates to a total loss of labour income of between \$139,106 and \$238,058. The closure of the Ituna SLGA liquor store resulted in an average loss of labour income of \$104,297 that created an estimated loss in labour income of between \$122,702 to \$209,984. Privatization in Kerrobert resulted in an average labour income loss of \$107,259 for all employees working at this location, which created an estimated loss of labour income between \$126,187 and \$215,948. Finally, the economic implications of losses in labour income show that privatization of liquor operations at the Ponteix SLGA store, resulted in a loss of labour income for employees of \$99,784 which created total labour income losses of \$117,393 and \$200,898.

Table 3: Average Annual Individual Income

Town	Average Annual Income
Langenburg	\$43,558
Ituna	\$27,879
Kerrobert	—*
Ponteix	\$28,837

Source: 2011 National Household Survey

*Data unavailable

In making a decision regarding the privatization of liquor stores it is worth accounting for the economic spin-off effects of job losses and loss of labour income. As seen from this analysis, employees working at SLGA stores are not the only ones affected by privatizing. Comparing the results of this analysis to average wages in each town, Table 3, it is clear that government liquor stores provide meaningful employment that is well above average wages in each town. When we aggregate the economic impacts generated from privatization, there is a direct effect of \$429,681 in lost labour income. When taking economic multipliers into account, this has created total losses of labour income in the range

of \$505,388 to \$864,888. Isolating for indirect and induced effects, the economic loss extending beyond direct effects is between \$75,707 and \$435,207. These indirect and induced effects are not that small and should be accounted for as a cost when evaluating the success of such a privatization policy.

Economic Impact: Municipal Revenue

All municipalities are under pressure to meet the demand for public services. Municipal governments are responsible for services such as police and fire services, libraries and land development services. Local governments are able to finance these services through two main revenue sources: property taxes, and provincial and federal government transfers. The privatization of public services such as liquor retail, has the potential to create a trickle-down effect that can have negative impacts on municipal income that is used to fund a variety of public services. In particular, the closure of government liquor stores has the potential to create vacant commercial property within municipalities that will no longer contribute to the municipal tax system in Saskatchewan. Prior to privatization, government liquor retail stores paid grants in lieu of property taxes.¹⁴ After privatization, the grants in lieu of property taxes are discontinued and these commercial properties may remain vacant and an unreliable source of property tax revenue.

Municipalities do not have direct access to major revenue sources such as income taxes and sales taxes; however, they do receive provincial and federal transfers that may come from these tax revenue sources. One issue is that reductions in employment and income have the potential to create indirect negative effects for rural municipalities.¹⁵ Specifically, we should be quite concerned with implications that privatization policies can have on provincial and federal

governments due to the fact that, at the root of the issue, it is the income of citizens that fund government programs. Losses in employment income, as indicated by the economic analysis above, will result in lower revenues to provincial and federal governments. This can lead to reductions in transfer payments that can put a strain on municipal revenues. However, if this is not the case it still diminishes the fiscal benefits of privatization as any losses in government income will mean that more debt has to be taken on to provide an equivalent level of services.

Overall, privatization has the potential to place unnecessary strain on municipalities. These strains are seldom discussed and the losses in municipal income through declining tax revenue should be considered a cost when weighing the proposed changes in the provincial liquor retail system. If the government is concerned with high operating expenses, a possible solution can be to consolidate other government services such as post offices and libraries into a single facility, as Ponteix formerly did with its shared library and liquor store.

Table 4: Loss of Employment

	Langenburg	Ituna	Kerrobert	Ponteix	Aggregate Effect
Direct Effect	1.72 FTE	1.63 FTE	1.65 FTE	1.60 FTE	6.60 FTE
Input-Output Multiplier for Employment					
Type I	1.11	1.11	1.11	1.11	1.11
Type II	1.22	1.22	1.22	1.22	1.22
Economic Impact: Multiplier Effects					
Type I Effect	1.91 FTE	1.81 FTE	1.83 FTE	1.78 FTE	7.33 FTE
Type II Effect	2.10 FTE	1.99 FTE	2.01 FTE	1.95 FTE	8.05 FTE
Indirect Loss	0.19 FTE	0.18 FTE	0.18 FTE	0.18 FTE	0.73 FTE
+ Induced Loss	0.38 FTE	0.36 FTE	0.36 FTE	0.35 FTE	1.45 FTE

Table 5: Loss of Labour Income

	Langenburg	Ituna	Kerrobert	Ponteix	Aggregate Effect
Direct Effect	\$118,341	\$104,297	\$107,259	\$ 99,784	\$429,681
Multiplier for Loss of Labour Income					
Type I	1.17647	1.17647	1.17647	1.17647	1.17647
Type II	2.01333	2.01333	2.01333	2.01333	2.01333
Economic Impact: Multiplier Effects					
Type I Effect	\$139,106	\$122,702	\$126,187	\$117,393	\$505,388
Type II Effect	\$238,058	\$209,984	\$215,948	\$200,898	\$864,888
Indirect Loss	\$ 20,765	\$ 18,405	\$ 18,928	\$ 17,609	\$ 75,707
+ Induced Loss	\$119,717	\$105,687	\$108,689	\$101,114	\$435,207

Conclusion

Informed, evidence-based policies must take into account two related factors.

First, assessment of a specific policy proposal must consider all economic and social impacts from several different perspectives. A narrow “business case” perspective limits the analysis to the operating costs and profitability of individual enterprises. From the government’s own budgetary point of view, it is necessary to consider both the immediate and long-term revenue implications. Further, as the custodian of the overall economy, governments must consider the wider implications for total incomes and their distribution among residents. Finally, it is important to take into account the net social impacts ranging from such concerns as the viability of rural communities to the overall health of provincial residents. Only after assessing the full range of economic and social impacts, and only after determining who gains and who loses in the process, can a proper benefit-cost analysis be rendered.

Second, the benefits and costs of a specific policy proposal must be measured against the range of alternative approaches. A policy may be an improvement over the status quo, but it cannot be deemed the *best* approach without considering the range of viable alternatives.

Where the privatization of retail liquor stores in Saskatchewan is concerned, the analysis to date fails on both grounds.

Where the government’s privatization proposal is concerned, the analysis has focused too narrowly on the business case, or the profitability of individual stores. The potential loss on government tax revenues have not been discussed or included in previous literature. Similarly, there has been no assessment of the net economic impacts on the province as a whole. In our limited analysis of the privatization of the four rural liquor stores, we identify not only a direct loss of 6.60 full-time jobs but additional indirect and induced loss of between 0.73 full-time jobs to 1.45 full-time jobs. Moreover, labour income suffered a direct loss of \$429,681 but additional indirect and induced impacts of \$75,707 and \$435,207, respectively. Income gains in the form of increased profit accruing to private store operators must be weighed against the losses suffered by workers in the affected communities.

The singular focus on privatization neglects any consideration of alternative approaches to address the range of policy objectives in rural Saskatchewan communities. Sadly, liquor stores have come to represent one of few remaining footprints of government services in rural

communities. In light of declining public services, both federal and provincial, alternative models of consolidating public services in a single delivery outlet may well achieve significant efficiency gains while expanding the range of services. Yet such innovative approaches have received little or no consideration.

Taking different perspectives and approaches into account will give decision-makers an ability to make the most informed decisions possible. Rural liquor stores are profitable operations that provide stable, well-paying jobs to various rural communities. Given the evidence presented and discussed in this report, current and future

provincial governments should reconsider privatization policies focusing on publicly owned liquor stores. Although there may be short-term benefits from government ridding itself of operating costs, in the long-term this may result in the loss of well-paying jobs and labour income, as well as long-term decrease in government revenue. If the government is looking to raise more revenue in the future, the current liquor retail system should be augmented with an expanded retail system that utilizes the benefits of profitable government-operated liquor stores in underserved communities across Saskatchewan.

Appendix A: Use of Input-Output Multipliers

This appendix will give an explanation of the use and interpretation of Input-Output Multipliers as it relates to estimating the total economic effects of changes in employment, and resulting labour income, for the regional economy of Saskatchewan. For this analysis, Provincial Input-Output multipliers, for Saskatchewan in 2009, were obtained from Statistics Canada (Catalogue no. 15F0046XDB).

The Saskatchewan Input-Output multiplier tables include direct, indirect and induced effects for a variety of industries at the detailed industry level. For the purpose of this analysis, industry code BS445000 (Food and Beverage Stores) has been identified as the industry in which retail liquor stores operate according to Statistics Canada NAICS codes.¹⁶

Direct effects measure any effects within the food and beverage retail industry such as a direct job gain or loss. Indirect effects measure the changes due to inter-industry purchases as they respond to new demands of the directly affected industries. For example, any industry supplying the food and beverage retail sector may be affected by employment and income changes. Induced effects measure the changes in production of goods and services in response to consumer expenditures induced by households' income, or wages, generated by the production of direct and indirect requirements.

Mathematically, Input-Output multipliers can be manipulated to obtain Type I and Type II employment and labour income multipliers. The Type I and Type II multipliers are calculated using the following formulas:

$$\text{Type I} = \frac{\text{Direct Effect Multiplier} + \text{Indirect Effect Multiplier}}{\text{Direct Effect Multiplier}}$$

$$\text{Type II} = \frac{\text{Direct Effect Multiplier} + \text{Indirect Effect Multiplier} + \text{Induced Effect Multiplier}}{\text{Direct Effect Multiplier}}$$

These mathematical formulas are used to develop an upper and lower bound on estimates generated for the employment and income effects that occur within an industry. It is acknowledged by Statistics Canada that Type I estimates underestimate impacts since household activity is absent and Type II estimates overstate economic impact because of rigid assumptions regarding income and consumer spending.

Calculating Type I and Type II Labour Income Multipliers

$$\text{Type I} = \frac{\text{Direct Effect Multiplier} + \text{Indirect Effect Multiplier}}{\text{Direct Effect Multiplier}}$$

$$\text{Type I} = \frac{0.51 + 0.09}{0.51} = 1.17647$$

$$\text{Type II} = \frac{\text{Direct Effect Multiplier} + \text{Indirect Effect Multiplier} + \text{Induced Effect Multiplier}}{\text{Direct Effect Multiplier}}$$

$$\text{Type II} = \frac{0.51 + 0.09 + 0.08}{0.51} = 2.01333$$

These calculations show that for each additional dollar in labour income paid out in this industry, the resulting economic impact is an additional \$0.18 to \$1.01 in additional income created as a result of indirect and induced effects. For example, for every additional \$1,000 in labour income created in this industry, an additional \$180 to \$1,010 are created in other industries as a result of indirect and induced effects. The opposite is also true: for every \$1,000 in labour income lost, a loss of \$180 to \$1,010 is created in other industries as a result of indirect and induced effects.

Calculating Type I and Type II Employment Multipliers

$$\text{Type I} = \frac{\text{Direct Effect Multiplier} + \text{Indirect Effect Multiplier}}{\text{Direct Effect Multiplier}}$$

$$\text{Type I} = \frac{14.58 + 1.59}{14.58} = 1.10905$$

$$\text{Type II} = \frac{\text{Direct Effect Multiplier} + \text{Indirect Effect Multiplier} + \text{Induced Effect Multiplier}}{\text{Direct Effect Multiplier}}$$

$$\text{Type II} = \frac{14.58 + 1.59 + 1.64}{14.58} = 1.22154$$

These calculations show that for every one job created in the food and beverage retail industry between 0.11 and 0.22 jobs are created in other industries. To expand upon this, for every 10 jobs created in the food and beverage retail industry, between 1.10 and 2.20 jobs will be created through indirect and induced effects. The opposite is also true, for every 10 jobs lost in this industry, an additional 1.10 to 2.20 jobs will be lost as a result of indirect and induced effects.

Endnotes

- 1 Saskatchewan Government (2015). Future of Liquor Retailing in Saskatchewan: Expanded Private Retail System. www.saskatchewan.ca/government/news-and-media/2015/november/18/future-of-liquor-retailing
- 2 Saskatchewan Bureau of Statistics. Saskatchewan Population Report – 2011 Census of Canada. www.stats.gov.sk.ca/stats/population/Censuspop2011.pdf
- 3 Jazairi, N. (1994). "The Impact of Privatizing the Liquor Control Board of Ontario," Interim Report. York University.
- 4 Campenella, D. (2014). "A Profitable Brew," Canadian Centre for Policy Alternatives. Pp. 16
- 5 Childs and Siebert (2015). "Assessing the Privatization of Retail Alcohol Sales". Figure 5.
- 6 West, D. (2003). "The Privatization of Liquor Retailing in Alberta," The Fraser Institute. p.59-60.
- 7 Ibid.
- 8 Government of Saskatchewan (2014). Four Government Liquor Stores Being Converted to Rural Franchises.
- 9 Government of Saskatchewan (2014). Green Paper: Future Options for Liquor Retailing in Saskatchewan. Pp. 10.
- 10 Ibid.
- 11 Saskatchewan Liquor and Gaming Authority (2014). Liquor Franchise Application.
- 12 Statistics Canada. 2012 North American Industry Classification System. Industry 445 – Food and Beverage Stores includes Code 4453 – Beer, Wine and Liquor Stores.
- 13 Government of Saskatchewan (2014). Four Government Liquor Stores Being Converted to Rural Franchises.
- 14 Government of Saskatchewan. Grants in Lieu of Taxes. www.saskatchewan.ca/government/municipal-administration/funding-finances-and-asset-management/funding/grants-in-lieu-of-taxes
- 15 Municipal System in Saskatchewan. http://esask.uregina.ca/entry/municipal_system_in_saskatchewan.html
- 16 Statistics Canada. 2012 North American Industry Classification System. Industry 445 – Food and Beverage Stores includes Code 4453 – Beer, Wine and Liquor Stores.

