



Alcohol Pricing and Public Health in Canada: Issues and Opportunities

Tim Stockwell, Ph.D.
Jiali Leng
Jodi Sturge

Centre for Addictions Research of BC
University of Victoria
British Columbia, Canada

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Tim Stockwell
Director, Centre for Addictions Research of BC
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Executive Summary

While the price of alcoholic beverages has been identified as a major determinant of the extent of alcohol-related problems, alcohol taxes have rarely been used in any systematic way to achieve public health and safety objectives. This paper examines the operation of alcohol taxes in Canada from a health perspective, and identifies a number of opportunities for protecting the health and safety of the population through ‘discerning and purposeful’ reforms of taxation and pricing policies.

Links between alcohol prices and health outcomes

Adverse health consequences from alcohol consumption occur in a dose-response relationship with level of intake, whether on a drinking occasion for problems of intoxication (e.g. injuries, acute illnesses) or over a number of years for chronic illnesses (e.g. cancers, liver disease). The price of alcohol influences consumption levels and hence the probability of acute and/or chronic adverse health outcomes. The possibility that price increases might lead to a reduction of health benefits for moderate drinkers is discussed and considered unlikely on the basis of available evidence. It is argued that while reduced consumption of ethyl alcohol is usually needed in order to reduce the risk of adverse health outcomes, this can sometimes be achieved through encouraging consumption of lower strength beverages through taxation policies such as have occurred in Australia. Such policies can achieve improved public health and safety without necessarily impacting on the profits of the different arms of the alcohol industry.

Tax revenue from alcoholic drinks in Canada

The Federal government collected \$1.055 billion from GST and \$1.221 billion in excise duties on all alcoholic products in 2004. Provincial governments have a great variety of different sales taxes and levies on alcohol, with widely varying rates between jurisdictions. Provincial sales taxes range from zero to 35% of retail sales price, and collectively generated at least \$1.104 billion in 2004. Liquor licensing fees generated a total of \$732 million across all provincial and territorial jurisdictions. The single largest source of government revenue, however, comes from the ‘mark-up’ or profit margin from government monopoly liquor stores, a total of \$3.567 billion in 2004. Thus total revenue from the sale of alcohol in Canada in 2004 amounted to \$7.678 billion.

Shortcomings of the Canadian taxation system

After summarizing the different ways in which the federal, provincial and territorial governments tax alcoholic drinks, the application of all these taxes is illustrated with reference to examples of different drinks with widely differing alcohol content identified in liquor stores in British Columbia, Ontario and Quebec. Some significant shortcomings were identified in the present systems, including:

- A failure to link many taxes with the cost of living and thereby allowing taxation rates to erode over time, contributing to lower prices and hence potentially increasing consumption. In particular, rates of federal excise duty on alcoholic beverages have not been increased since 1991.

Further, some provincial levies and mark-ups are not increased to keep pace with the Consumer Price Index (CPI).

- The virtual absence of incentives for choosing lower alcohol content beers, wines and spirit-based coolers due to the fact that most jurisdictions calculate taxes and mark-ups based on either volume of beverage or product price rather than the volume of ethyl alcohol in beverages.
- The existence of positive price incentives for consuming fortified wines over table wine and high strength beers over average or lower alcohol content beers in some jurisdictions.
- Major exemptions providing tax-free alcohol (or near tax-free) at brewing or wine-making facilities that are only notionally ‘do-it-yourself’ and, though to a lesser extent, on some lands owned by Treaty Indians.

Implications for public health and safety

Some consequences of these shortcomings are as follows:

- Excise duties on all alcoholic beverages have been reducing in real terms at an average rate of 2% per year since 1991 as a result of inflation.
- For beverages that have up to 7% alcohol by volume, there are no federal or provincial taxes that favour lower alcohol content drinks over higher alcohol content drinks, whether these are beer, cider, wine-based or spirit-based drinks.
- Rates of taxation per standard drink are substantially higher on low alcohol content varieties than on high strength beers, wines and many spirit-based drinks. As a result, the market for alcoholic drinks of between 2.5% and 4% alcohol by volume is greatly under-developed in Canada.

Recommendations

A number of options for reform of taxation are recommended for consideration by the National Alcohol Strategy Working Group. These principally include:

1. The federal government promotes legislation to:
 - a) link federal excise duties to the CPI;
 - b) apply excise duties to the ethyl alcohol content and strength alone of beer, wine and spirits;
 - c) adjust excise duties to compensate in whole or in part with the increases in CPI since the last adjustment in 1991, and contribute additional revenue towards treatment and prevention of alcohol-related harm in Canada;
 - d) replace the GST on alcoholic beverages with an additional compensatory increase in excise duties based only on volume of ethyl alcohol in beverages.
2. Provincial and territorial governments similarly review sales taxes, minimum pricing and levies on alcohol, and introduce new legislation which will achieve the following outcomes:
 - a) introduce incentives for the consumption of lower alcohol content beers, wines and spirits, principally by reducing the number of present taxes on alcohol to a single tax based only on volume of alcohol and beverage strength;
 - b) ensure all alcohol taxes and mark-ups are directly linked to the CPI and updated at least annually;

- c) remove or at least reduce tax exemptions on U-Brew and U-Vin products;
 - d) seek to simplify and reduce the number of alcohol taxes to just one or two that efficiently achieve public health and safety outcomes as well as revenue generation;
 - e) consider creating tax exemptions for alcohol dispensed in wet shelters for homeless people with chronic alcohol-related problems;
 - f) consider earmarking some alcohol tax revenues to provide additional funds for alcohol treatment and prevention services.
3. In order to facilitate these outcomes, it is recommended that the National Alcohol Strategy Working Group:
- a) promote a national forum on alcohol taxation and public health involving health economists, other public health experts and policy makers to improve understanding and generate debate about this important issue;
 - b) recommend new lines of research that will further inform policy development in this area;
 - c) attempt to create a dialogue between health and finance departments at the federal, provincial and territorial levels of government towards reforms of taxation in the interests of public health.

The complexity of current alcohol pricing and taxation systems in Canada creates an excellent opportunity for the implementation of new, more efficient systems in which prices and taxes are used in a “purposeful and discerning manner” in the interests of health and safety, while maintaining the social and economic benefits derived from the responsible production, sale and consumption of alcoholic beverages in Canada.

I. Introduction

The pricing and taxation of alcoholic beverages is arguably the single most important issue to tackle when addressing alcohol misuse from a public health perspective. It is also the hardest to engage because of the multitude of interests involved. The stakes are indeed substantial. On the one hand, we have to consider the nearly \$8 billion in annual government revenue, the needs of major industries to provide dividends to their shareholders, the employment of hundreds of thousands of Canadians in the manufacturing and retail arms of those industries, and consumer demand from three-quarters of Canadian adults for affordable alcohol. On the other hand, there is the massive toll on life, health, and social well-being associated with the misuse of alcohol. Evidence for the impacts of taxation policy on patterns of hazardous use and related harm has been demonstrated by innumerable independent reviews (e.g. Bruun et al, 1975; Edwards et al, 1994; Babor et al, 2003; Loxley et al, 2004). It is therefore, both admirable and courageous that a priority issue to be addressed by the National Alcohol Strategy Working Group is the development of ‘purposeful and discerning’ alcohol pricing and taxation policy directed at improving health and social outcomes. This discussion paper summarizes some of the key features of taxation systems that can promote positive health and social outcomes, discusses current pricing and taxation practice in Canada, and provides recommendations for reforms that could further reduce the health and social harms associated with alcohol misuse.

At the outset, it is important to introduce some context to this discussion of alcohol, taxation and public health. First, while taxation can be an effective means of reducing adverse health outcomes from tobacco (e.g. Younie et al, 2005) and alcohol (Chikritzhs et al, 2005), there are limits as to how far this principle can be pursued at any one time or place. Pushing taxes up too high and too fast will usually encourage a black market that will have unintended consequences, not only for the economy and tax revenue, but also for health and safety, as there is often an increased supply of cheap and possibly

contaminated alcohol under these circumstances. Deaths from the consumption of illegal and contaminated alcohol have been reported in many countries, often associated among economically disadvantage people seeking more affordable alcohol (Nuzhnyl, 2004). In the past year, for example, there were media reports of over 50 deaths in a region of India from illicitly-made alcohol, as well as a number of deaths of Polish factory workers. Increased illicit production was also documented in Russia during the large alcohol tax increases in the 1980s (Room et al, 2002), and deaths from illicit alcohol have also been reported in Mexico (WHO, 2000). A further concern is the likelihood of increasing the consumption of alcoholic products not intended for consumption (e.g. methylated spirits, some perfumes and aftershave lotions) by people with severe drinking problems when their preferred beverages suddenly increase in price. At a political level, sudden price increases in a popular commodity such as alcohol is something that governments who wish to be re-elected will approach only when they can be sure this will be accepted by the community. There are examples where federal elections have been lost at least partly due to unpopular attempts to raise alcohol taxes (e.g. Stockwell and Crosbie, 2001). A comprehensive and pragmatic tax policy that includes major attention to health and safety issues must, therefore, consider how to ameliorate such unintended political, economic and social consequences.

Another crucial piece of Canadian alcohol policy context is that in recent years there have been only modest increases in per capita consumption (Statistics Canada, 2005), unlike the substantial increases in recent years evidenced in the UK and the Republic of Ireland (World Drink Trends, 2005). Between 2000 and 2004, per capita consumption of ethyl alcohol rose from 7.6 litres per person aged 15 or over to 7.9 litres, an increase of only 4%. In 2003, Ireland introduced a significant increase in taxation of spirit-based drinks which resulted in an immediate decline in per capita consumption and a reduction in deaths

from liver cirrhosis (Hope, 2005). This discussion paper starts from the perspective that there is unlikely to be much public or political will for substantial increases in alcohol taxes in Canada at the present time, even though they would achieve significant public health and safety benefits. Instead, the focus will be principally on the possibilities of redistributing existing alcohol taxes in ways that may promote public health and safety without significantly increasing the overall level of taxation. Furthermore, the primary focus will be on redistribution of those taxes *within* the existing major beverage categories of beer, wine and spirits so as not to favour any one producer group over any other. The case for harmonizing taxes across major beverage groups for the growing market of lower strength products (mostly up to 7% alcohol by volume) will, however, be discussed.

Like many other countries, alcohol taxes in Canada are a complex tangle of rates and rules that have developed over many decades through a patchwork of decisions at all levels of government. Alcohol taxes provide an important source of revenue for provincial, territorial and federal governments, and decisions regarding their structure and form have until now been made primarily to serve fiscal rather than public health concerns. However, the complexity and range of alcohol pricing and taxation also offers significant opportunities for the promotion of public health and safety. In particular, the ability of provincial and territorial governments to directly influence alcohol prices through minimum "social reference" prices, both

through provincial alcohol monopolies and across the private sector in some jurisdictions, is an amazingly powerful tool to promote health that few other governments in the world have at their disposal. In addition, unlike Australia where only the Federal government can collect alcohol taxes (Stockwell and Crosbie, 2001), it is also still possible for provincial and territorial governments to collect all manner of sales taxes and special levies on alcoholic beverages to contribute to their public revenue streams. Following a discussion of some basic evidence-based principles regarding the relationship between taxes, prices, patterns of alcohol consumption and related problems, this paper will consider the breadth of opportunities that exist for achieving a sensible redistribution of taxation in the interest of public health in Canada. In outline form, these options will include ways to achieve the following:

- (i) maintaining the overall tax rate with the cost of living;
- (ii) reducing the availability of cheap alcohol, especially to vulnerable population groups;
- (iii) introducing special levies on high-strength and high-risk beverages while at the same time increasing funding for treatment and prevention initiatives;
- (iv) creating price incentives for the production, sale and consumption of lower strength beverages;
- (v) enabling reforms by seeking greater simplicity and efficiency within the current system of alcohol price and taxation policy.

II. The price of alcohol, patterns of drinking and related harms

Does the price of alcohol influence consumption?

There is no longer any serious doubt that alcohol behaves like other commodities in that consumption is responsive to changes in price (Babor et al, 2003). There is now a substantial body of empirical research spanning many decades and many different countries which testifies to this point. Edwards et al (1994) identified 53 studies spanning 17 countries and 120 years of price and consumption data. Among these studies, only three failed to find the expected negative relationship between alcohol prices and levels of consumption for all three of the major beverage categories of beer, wine and spirits, and only one study failed to find this relationship for more than one of these categories. As Ponicki et al (1997) have shown in the US, alcohol is not a "monolithic" product but is instead a complex array of thousands of different strength beers, wines, spirits and other drinks, each spread out along a continuum of quality and price. The exact responsiveness of any kind of alcohol to a particular change in price will vary from place to place, but in almost every instance that has been studied or for which data are available, price increases have led to decreases in consumption, and decreases in price have led to increases in consumption. In general, across different places and in different times, it has been found that spirits are most responsive to price changes while wine and beer are slightly less so (e.g. Edwards et al, 1994).

Does the price of alcohol influence hazardous patterns of alcohol use and related harms?

While the existence of a robust relationship between price and consumption has never really been seriously disputed by the research, there has been more debate as to whether price is a good tool to use to address hazardous and harmful patterns of alcohol consumption. It is often argued, for example, that alcohol dependence and heavy drinkers will be unlikely to change their consumption patterns due to a change in price, and so tax hikes in effect end up "punishing the many for the sins of a few" and to no good purpose. The evidence, however, suggests quite a different picture: consumers tend to drink less alcohol, there are fewer alcohol-related problems and lower rates of alcohol dependence when prices are increased (Cook et al, 2002; Farrell et al, 2003; Chaloupka et al, 1998). Most studies on this question have found robust relationships between the price of alcohol and the prevalence of hazardous drinking and, of most significance, also with levels of serious alcohol-related harm such as liver cirrhosis and road trauma (Babor et al, 2003; Osterberg, 2001). Markowitz et al (2003) found increases in excise tax on beer to be associated with a reduced number of youth suicides. Chaloupka et al (2002) found that increasing the price of alcohol can not only reduce drinking and driving and its consequences among all age groups, but also lower the frequency of diseases, injuries, and deaths related to alcohol use

and abuse, as well as reduced alcohol-related violence and crime. In Ontario, increasing the price of alcohol through alcohol taxes and pricing policies has been found to have a significant effect in reducing the number of alcohol-related vehicle and traffic incidents (Adrian et al, 2001). Gruenewald et al (2000) analyzed time series data across all 51 US states, examining the links between price changes and alcohol-related crashes. A negative relationship was found between these two variables for all but two states. There is also strong evidence that young people and high-risk drinkers are especially responsive to price changes (Cook et al, 2002; Chaloupka et al, 2002). Not only do lower prices increase consumption among young drinkers, but research has found that, when faced with a higher cost of alcohol, students are less likely to make the transition from abstainer to moderate drinker to heavy drinker (Williams et al, 2002). For example, after a tax reform in Switzerland's spirits market reduced prices, spirit consumption increased even though consumption of alcohol in Switzerland for all age groups at the time was declining (Heeb et al, 2003; Mohler-Kuo et al, 2004).

By what mechanisms might price and taxation influence hazardous alcohol consumption and related harms?

Any influence of taxation on patterns of alcohol consumption and related harms can only occur through impacts on the final retail price of beverages available to consumers. It needs to be noted that the full extent of a tax increase or decrease will not always be passed on to consumers (Osterberg, 2001), and there may even be occasions where no changes in price occur following a tax change. It will be assumed in the rest of this report, however, that by and large tax changes on alcoholic beverages will almost invariably have some impact upon the final retail price, an assumption that is well-justified on the basis of international experience (Babor et al, 2003; Chikritzhs et al, 2005).

Contrary to the published research evidence, it is often assumed that price changes will have little impact upon patterns of hazardous drinking and related harm. The underlying concept behind this assumption appears to be that someone who is "addicted" to alcohol always somehow protects their supply, no matter how expensive alcohol becomes. To understand why this doesn't apply to any great extent in practice, it is helpful to know that most serious alcohol-related harm is related to hazardous drinking patterns which, while in excess of sensible drinking guidelines, fall considerably short of "alcoholic" drinking. Indeed, most health and economic costs from alcohol consumption in Canada are associated with drinking to intoxication, which is a contributing cause to many fatal and non-fatal injuries (Single et al, 1999). Using data from the 2004 Canadian Addiction Survey, Stockwell et al (2005) recently estimated that at least 71% of the alcohol consumption reported in that survey occurred in a way that was outside of Canadian low-risk drinking guidelines, i.e. no more than 14 drinks a week for men, no more than 9 drinks a week for women, and no more than two drinks on any one day for men or women (Bondy et

al, 1999). These estimates were made on the basis of a survey that accounted for only 32% of known alcohol sales in Canada in 2004 (Stockwell et al, 2005). This means that considerably more than 71% of all alcohol consumed in Canada occurs in a way that places health and safety at risk as defined by national drinking guidelines. It follows that a) most alcohol-related harm is not caused by a pattern of alcohol dependent drinking, and b) since a significant proportion of alcohol consumption is hazardous in some degree to health, then subtle changes in population level consumption will impact upon population level harms.

It is worth noting that nearly all adverse health and safety outcomes associated with drinking have a direct dose-response relationship with drinking level – either on the drinking occasion for problems of intoxication (e.g. Macdonald et al, 2005; McLeod et al, 1999) or drinking level over years for problems of regular use such as some cancers, liver disease and some strokes (Ridolfo and Stevenson, 2001). In practice, this can mean, for example, that each additional drink consumed before driving or engaging in other hazardous behaviour significantly increases the risk of injury (McLeod et al, 1999). Furthermore, each additional drink consumed per week on average over a number of years contributed to additional risk of long-term adverse health outcomes. It is easy to understand how changes in the affordability of alcohol from tax changes can lead directly to changes in levels of drinking and influence the probability of adverse health and safety outcomes for individuals.

Another consideration that is often raised is whether, given the evidence for health benefits in relation to cardiovascular disease from the moderate consumption of alcohol (e.g. Ridolfo and Stevenson, 2001), increased prices might lead to *reduced* benefits and possibly even an overall increase in alcohol-related deaths. Indeed, most current estimates of alcohol-related mortality indicate more lives saved from light to moderate consumption than are lost from hazardous consumption levels (e.g. Chikritzhs et al, 2002). Again, this commonsensical idea does not appear to apply in practice. In the first place, careful analysis of many years' worth of per capita consumption data and standardized rates of alcohol-caused mortality data across Europe (Norström and Skögl, 2001) found no correlation between per capita alcohol consumption and rates of death from cardiovascular disease, but strong correlations with rates of known alcohol-related deaths. Indeed, no published study has ever linked rates of cardiovascular disease at the population level inversely with per capita alcohol consumption. Additional considerations here are that a) only a small portion of all alcohol consumed in Canada is done so in a way which would confer benefits on the consumer by virtue of being within those drinking guidelines (Stockwell et al, 2005), and b) taxes based on the alcohol content of drinks will have the least impact financially on the consumption habits of those light drinkers most likely to receive health benefits from their drinking.

The above evidence suggests that reduced alcohol consumption of some kind, whether per occasion or on average across all

occasions, is necessary if price and tax policies are to have public health benefits. It need not be the case, however, that this also implies a reduction in the overall volume of alcoholic beverages is required for these benefits to occur. The example of the success of reduced alcohol content beers in Australia since the late 1980s will be discussed later in this report. Beers with an alcohol content of between 2.5% and 3.8% by volume now constitute a substantial proportion of the Australian beer market following a number of federal and state tax reductions for these beverages (Stockwell and Crosbie, 2001). In contrast, beers of this strength constitute a very minor part of the Canadian market where there are virtually no tax incentives for lower content drinks (see below). The substantial change in the pattern of beer consumption over two decades in Australia in response to these tax reforms resulted in a reduction in per capita consumption of ethyl alcohol in beer, but a less marked reduction in the consumption of beer itself. The significance of this example is that, while a reduction in the consumption of ethyl alcohol is

necessary for a reduction in adverse health and safety outcomes caused by excess alcohol consumption, this need not always be at the expense of alcohol industry profits if increased consumption of low alcohol content drinks is also encouraged. A telling study of US college drinking compared drinking behaviour and enjoyment at fraternity parties at which free unmarked beer was provided, but under two conditions: in one, the beer was only 3% alcohol by volume and, in the other, it was 7%. There were only minor differences in the quantities of high and low strength beer consumed, but party-goers indicated similar levels of enjoyment. Most significantly, consumers of the 3% beer had very much lower BAC readings than those who consumed the stronger beer (Geller et al, 1991). If the beer had been available commercially, the same or even greater profit would have been made by the retailers on the weaker beer, but the risk of adverse health and safety effects would have been much lower with the reduced alcohol drinks.

III. Alcohol taxation in Canada

In 2004, provincial, territorial and federal revenue from alcohol amounted to \$7.68 billion. Table 1 below shows the breakdown of this figure according to provincial/territorial and federal sales and excise taxes. It also shows that the bulk of Canadian taxes

on alcohol (70.4%) are collected at the provincial/territorial level from ‘mark-ups’ (or profits) from the sale of alcohol by the provincial retail monopolies. Federal excise duties account for only 16% and GST only 14% of total taxation revenue.

Table 1: Canadian government revenues on alcoholic beverages - 2004

Source of Taxation	Type of Taxation	Documentary Source	Amount \$ million/annum	% Total Revenue
Federal				
	Excise duties	http://dsp-psd.pwqsc.qc.ca	\$1,221	15.9%
	GST	Statistics Canada, 2005	\$1,055	13.7%
Total Federal			\$2,276	29.6%
Provincial and/or Territorial				
	Levies and mark-ups	Statistics Canada, 2005	\$3,567	46.5%
	Licensing fees	Statistics Canada, 2005	\$732	9.5%
	Provincial sales tax (PST)	Statistics Canada, 2005	\$1,104	14.4%
Total Provincial and/or Territorial			\$5,402	70.4%
Total Canada			\$7,678	100%

Federal excise duties

Alcohol produced in Canada is subject to a federal tax which, for most spirits is calculated on the absolute alcohol content of the beverage, but for wine and beer is taxed at a flat rate for very broad categories of beverage strengths. The rates for different alcoholic content beverages in the main categories of beer, wine and spirits are summarized in Table 2. This information demonstrates that there is roughly ten times more excise charged

on spirits with a strength of 70% alcohol than there is on spirit-based drinks with an alcohol content of 7.1%. However, beer with a strength of 2.6% is charged the same excise as beer with a strength of 8%, and wine with a strength of 7.1% is charged the same excise rate as wine with a strength of 15%. It is also worth noting that both wine and spirit-based drinks with 7% alcohol or less are also charged a flat tax, with no advantage to lower strength beverages within that broad band of beverage strengths.

Table 2: Rates of Canadian Federal Excise Duties charged on alcoholic beverages sold in Canada - November 2005

Federal Excise Duties on Alcohol	
Beverage	Stated Rate
Spirits	\$11.066 per litre of absolute ethyl alcohol
Spirit (not more than 7% absolute ethyl alcohol i.e. coolers)	\$24.59 per 100 litres of spirits
Spirit Special Duty on imported spirits	\$0.12 per litre of absolute ethyl alcohol
Beer	
More than 2.5% absolute ethyl alcohol	\$27.985 per 100 litres
More than 1.2% but not more than 2.5% absolute ethyl alcohol	\$13.990 per 100 litres
Not more than 1.2% absolute ethyl alcohol	\$2.591 per 100 litres
Wine	
Not more than 1.2% absolute ethyl alcohol by volume	\$2.05 per 100 litres
More than 1.2% and up to 7% absolute ethyl alcohol by volume (i.e. coolers)	\$24.59 per 100 litres
More than 7% absolute ethyl alcohol by volume	\$51.22 per 100 litres

In most cases, beers sold in Canada are between 4% and 6% alcoholic strength, wines between 10% and 14%, and spirits between 38% and 45%. However, increasingly there are examples of products across these major beverage varieties with

the same strength, notably pre-mixed spirits and wine-based 'coolers'. Table 3 compares the ways in which excise duty affects these different beverage categories when the alcohol content is the same, with examples chosen from 3.5% to 15%.

Table 3: A comparison of excise duties per litre of ethyl alcohol and per litre of beverage for beers, wines and spirits of the same alcoholic strength

% Alcohol content	Federal excise in \$ per litre ethyl alcohol			Federal excise in \$ per litre of beverage		
	Beer	Wine	Spirits	Beer	Wine	Spirits
3.5%	\$8.00	\$7.03	\$7.03	\$0.28	\$0.25	\$0.25
7%	\$4.00	\$3.51	\$3.51	\$0.28	\$0.25	\$0.25
10%	\$2.80	\$5.12	\$11.07	\$0.28	\$0.51	\$1.11
15%	n/a	\$5.12	\$11.07	n/a	\$0.51	\$1.66

It can be seen that for beer there is no incentive provided by excise duties for consumers to select lower strength varieties, for wine there are some incentives to drink products with less than 7% alcohol, and for spirits there are marked incentives for selecting lower strength beverages down to but not below 7% alcohol by volume. In fact, across *all beverage varieties* in the increasingly popular range of drinks up to 7% alcohol, there are no further excise duty incentives for consumers to select lower

strength products. When the tax rate is considered, by unit of pure ethyl alcohol for these products at or below 7% alcohol by volume, there are arguably *disincentives* for consumers to select lower strength varieties whether these be beers, wines or spirits, because excise rates are higher on these lower strength products. In terms of comparative rates of tax, beer is taxed slightly higher per unit of alcohol and also per litre of beverage than is wine or spirits when beverage strength is held constant.

A further issue with the Federal Excise Tax is that excise duties on alcohol in Canada have not been indexed to inflation since 1984 when this approach was replaced by a system that required separate legislation for every rate increase. There have been no increases in the federal excise rate for wine, beer or spirits in Canada since 1991. To put this into perspective, between 1991 and 2005, the Consumer Price Index increased a total of 30.3% (www.bankofcanada.ca). Essentially, the power of excise taxes in Canada has eroded by nearly one-third in real terms in the last 14 years. In this respect, it is important to note that federal excise duty is applied at production and so is, in effect, multiplied by all the provincial sales taxes, mark-ups and the GST. In some jurisdictions, the mark-ups may similarly be applied as a multiplier of the excise duty rate. This means that a significant proportion of the final price of alcoholic beverages has not kept pace with inflation over time.

The Goods and Services Tax

Since January 1, 1991, alcoholic beverages sold in Canada, like most other products and services, have been subject to a 7% Goods and Services Tax (GST) applied to the final retail price. As shown in Table 1, the GST provides about 14% of the total tax revenue to Canadian governments from the sale of alcohol. The advantage of sales taxes is that, as the cost of manufacturing, marketing and distribution increases, so will the GST to the extent that increased costs are passed on to the consumer. In other words, the GST automatically keeps pace with the cost of living. A disadvantage from a public health point of view is

that the tax is applied regardless of the alcoholic strength of the beverage. This means that high strength alcoholic beverages that are cheap to manufacture attract very little taxation through sales taxes.

There is one important exception to the GST on alcoholic beverages: Treaty Indians are constitutionally entitled to trade alcohol, tobacco and other products free of GST on reservations. Some bands in British Columbia were granted the right to raise local taxes on goods sold on reservations in 1997 (Finances of the Nation, 2002). These include the Cowichan Tribes of Vancouver Island, the West Bank First Nation, the Kamloops Indian Band and the Sliammon First Nation. At the time of writing, we were unable to discover whether this right is applied to any significant degree to the sale of alcohol.

Provincial and Territorial sales taxes

There are many different types of provincial sales taxes applied to alcoholic beverages in Canada, ranging from 0% in Alberta, the Northwest Territories and Nunavat, to 35% in Prince Edward Island. In several jurisdictions, these taxes are combined with the GST and applied as a single Harmonized Sales Tax (HST). In British Columbia, Manitoba, Ontario, the Yukon, Saskatchewan, New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island, higher rates of tax are applied to alcoholic beverages than to other goods and services through the general Provincial Sales Tax. In Quebec, there is no sales tax, but a ‘flat tax’ is applied per litre of beer, wine and spirits in relation to volumes of beverages sold (see Table 4 below).

Table 4: Rates of Provincial Sales Taxes in Canadian jurisdictions for alcoholic beverages (applied separately or as a component of a Harmonized Sales Tax)

Type of Sales Tax	BC	AB	MN	ON		QB	YK	NWT	NB	SK	NU	PEI	NF	NS
				Liquor Stores	On-Premise									
General PST	7%	0%	7%	8%	8%	7.5%	0%	0%	0%	6%	0%	10%	0%	0%
Additional Alcohol Sales Tax	3%	0%	5%	4%	2%	0%	10%	0%	15%	4%	0%	25%	15%	15%
Total Sales Tax on alcohol	10%	0%	12%	12%	10%	7.5%	10%	0%	15%	10%	0%	35%	15%	15%

Provincial levies and “markups”

Canadian provinces and territories are able to apply any number of special levies and taxes on alcoholic beverages. Examples include levies designed to collect revenue for environmental purposes, a special tax to fund educational programs around alcohol in Québec through the organization *Éduc’alcool*, a specific levy in Manitoba applied to beers above 7% alcohol by volume, and a special levy in Newfoundland on spirits with a strength above 40% alcohol by volume. The *Éduc’alcool* levy in

Quebec is calculated at a rate of \$0.12 per case of wine, \$0.24 per case of fortified wine (around 20% alcohol/volume), and \$0.36 per case of spirits. In addition, a special levy applied in Québec is charged at the rate of \$0.89 per litre of wine or spirits and \$0.40 per litre of beer, when purchased in a shop or store. When purchased for on-premise consumption, a higher rate of \$0.65 per litre of beer and \$1.97 per litre of wine or spirits is charged. Neither of these last two Québec levies are linked to the cost of living.

“Mark-ups” are basically the profit margins on individual beverages once the costs of manufacture, distribution and sale, as well as other taxes, are subtracted from the final retail price. As shown in Table 1, this category of taxation contributes almost

half of all the alcohol taxes collected in Canada. This form of revenue is not always adjusted to keep pace with the cost of living, nor does it usually distinguish between high and low alcohol content (see Tables 6 and 7 below).

Table 5: Overall Characteristics of Alcohol Taxes and Markup Structures for Provincial/Territorial Governments in Canada

	AB	BC	MB	NB	NL	NS	NWT	NU	ON	PEI	QC	SK	YK
Spirits	V	A	A ¹	A ²	A+	A+	F	F	A	A+	A+	A	n/a
Wine	V	A ³	A+	A	A+	A	F	F	A ⁴	A	A+	A ⁵	n/a
Beer	F	F	A+	A	F	A	F	F	F	F	F	F	n/a
Spirit Coolers	V	A	A+	A ⁶	F	A+	F	n/a	A ⁷	A ⁸	A+	A ⁹	n/a
Wine Coolers	V	A	A+	A	F	A+	F	n/a	A	F ¹⁰	A+	A	n/a
Special Taxes or Programs		Additional 3% Provincial Alcohol Sales Tax; Minimum pricing for S/W/B; Minimum markups for S/W	Minimum per litre markup rates for S/W/B; Surcharge for B over 7%	Minimum pricing for S/B; Minimum per litre markups for S/W/B	Minimum pricing for S/B; Surcharge for S over 40%	Minimum pricing (based on standard cost + standard profit)			Additional 4% Provincial Alcohol Sales Tax; Minimum pricing for S/W/B	25% Provincial Health Tax; Minimum pricing for S/B	Surcharge on S/W to fund Educ' alcohol	Additional 3% Provincial Alcohol Sales Tax; Minimum markups for S/W; Minimum pricing for S	Alcohol sales tax (no regular sales tax in terr.)

Key:

A = *Ad Valorem* Tax (tax as a percentage of price)

A+ = Combination of *ad valorem* and a flat tax.

F = Flat Tax (tax per litre of beverage)

V = Volumetric Tax (tax per litre of pure alcohol)

B = Beer; W = Wine; S = Spirits.

¹ Value-priced spirits in Manitoba are subject to what is essentially a flat tax based on minimum markups per litre.

² Value-priced spirits in New Brunswick are subject to what is essentially a flat tax based on minimum markups per litre.

³ Ad valorem tax/markup rates for fortified wines in British Columbia are higher than for non-fortified wines.

⁴ Ad valorem tax/markup rates for fortified wines in Ontario are higher than for non-fortified wines.

⁵ Ad valorem tax/markup rates for non-premium fortified wines in Saskatchewan are higher than for non-fortified wines.

⁶ Spirit and wine coolers in New Brunswick with over 7% alcohol have a higher ad valorem tax/markup rate.

⁷ Spirit and wine coolers in Ontario have a lower ad valorem tax/markup rate than standard wines and spirits.

⁸ Spirit coolers in PEI with over 7% alcohol have a higher ad valorem tax/markup rate.

⁹ Spirit and wine coolers in Saskatchewan have a lower ad valorem tax/markup rate than standard wines and spirits.

¹⁰ Tax/markup rates on wine coolers in PEI vary according to volume of the product (500ml and up are marked up at a slightly higher rate).

An attempt has been made in Table 5 above to summarize the main characteristics of these various provincial mark-ups and levies in terms of whether they are essentially “ad valorem” i.e. sales taxes, “flat” taxes that are applied irrespective of the percentage of alcohol, or “volumetric” taxes that are calculated on the alcohol content of the beverage.

Obviously, the current system of taxation in Canada is highly complex, and Table 5 should be viewed as a simplification designed to provide a rough idea of the overall nature of the taxation system in each jurisdiction for the purpose of this report. The first point to note is that only in Alberta are provincial taxes applied to the alcohol content of beverages to any significant degree, though with the important exception of beer. In most instances, the net impact of most systems of taxation is to exaggerate price differences across the “price-

quality spectrum” by taxing in accordance with the retail price of the product (Ponicki et al, 1997). The important exception is beer. In all provinces other than Manitoba, New Brunswick and Nova Scotia, beer receives a “flat tax” i.e. the taxes are applied regardless of alcohol content or retail price. From a public health point of view, these are undoubtedly the least desirable forms of taxation, combining the disadvantages of being applied irrespective of alcohol content and being likely to erode over time unless legislators and regulators are especially vigilant and increase rates with the cost of living on a regular basis. At the most extreme, the Northwest Territory and Nunavut have alcohol taxation systems that are entirely flat across all beverages.

Other points to note are that many provinces and territories tax alcoholic products produced within the province lower than those produced in other provinces and territories in Canada,

and also tax non-Canadian (imported) products higher than Canadian products. Also, some provinces and territories combine flat taxes/markups and *ad valorem* taxes/markups to develop overall tax/markup rates. Finally, explicit or implicit minimum “social reference” or “floor” prices exist in all jurisdictions except Alberta, Quebec, Northwest Territories, Nunavut and the Yukon. Minimum prices apply to alcohol sold in government and private liquor stores (where these are permitted) and also to alcohol brought into Canada from other countries.

Examples of mark-up policies in BC and Ontario calculated per standard drink of alcohol

The “mark-ups” in alcohol monopoly liquor stores in several jurisdictions are applied to the wholesale price, along with other special levies. The mark-up enables substantial profits to be made after costs of sale and distribution are met, which then becomes government revenue. Tables 6 and 7 below depict the mark-ups *estimated* for a range of different strength alcoholic beverages selected from two liquor stores, one in BC and one in Ontario.

These are complex to estimate as there are many different levies to take into account. The selected beverages were chosen only on the basis of beverage strength, with an attempt to choose a popular variety in each category and also consistency across the two sites. The stores were those conveniently located in built-up areas. The concept of the “standard drink” is used in these tables for assessing equivalents in taxation rates between different beverage categories and for beverages of different strength. The concept of a “standard drink” is used in many countries to help people understand how much alcohol they are consuming, and is used in Canada for health promotion purposes (e.g. Bondy et al, 1999) and also in the conduct of alcohol consumption surveys. It is based on the idea that usual “units” of beverage such as a glass of 12% wine, a bottle of 5% beer and a measure of 40% spirits all contain roughly the same amount of alcohol. In Canada, this is estimated to be 13.6 grams or 17.2 mls of ethyl alcohol.

Table 6: Examples of minimum mark-ups applied to different strength alcoholic drinks in a Liquor Store in Victoria, BC

Beverage	Brand Name	% Alcohol	\$ Retail	\$ Mark-ups	\$ Mark-up per SD
WINE					
750ml sherry	Andres - Medium Dry	22.0%	6.19	2.25	0.23
750ml sherry	Brights '74'	18.0%	5.69	2.25	0.29
750ml wine	Yellow Tail	12.0%	15.55	2.25	0.43
750ml wine	White Zinfandel	10.0%	9.99	2.25	0.54
750ml bottle	Wild Vines	6.0%	6.99	0.95	0.36
BEER					
355mlx6 pack	Colt 45	8.0%	9.99	3.47	0.35
355mlx6 pack	Labatt's Blue	5.0%	11.59	3.47	0.56
355mlx6 pack	Labatt's Kokanee	4.0%	11.59	3.47	0.70
355mlx6 pack	Pacific Light	3.5%	10.09	2.30	0.53
355mlx6 pack	[Hypothetical]	2.5%	10.08	2.30	0.74
355mlx6 pack	Labatt's Nordic	0.5%	4.50	3.47	5.61
SPIRITS					
750ml	Bacardi Amber (Rum)	75.5%	36.59	9.84	0.30
750ml	Smirnoff (Vodka)	40.0%	23.59	9.84	0.56
750ml	Hiram Walker (Schnapps)	22.0%	22.75	9.84	1.03
750ml	Flize Gold Passion	14.9%	32.55	9.84	1.52

Table 7: Examples of minimum mark-ups applied to different strength alcoholic drinks in a liquor store in Ottawa, Ontario

Beverage	Brand Name	% Alcohol	\$ Retail	\$ Mark-ups	\$ Mark-up per SD
WINE					
750ml sherry	Brights - Pale Dry	20.0%	6.65	1.55	0.18
750ml sherry	Andres - Medium Dry	18.0%	6.65	1.55	0.20
750ml wine	Yellow Tail	13.5%	11.95	3.31	0.56
750ml wine	Farnese	12.5%	7.10	1.55	0.18
330mlx4 pack	Yuha Mango Citrus	5.0%	8.95	n/a	n/a
BEER					
710ml	Colt 45	7.0%	2.95	0.39	0.14
355mlx6 pack	Labatt's Blue	5.0%	11.95	1.18	0.19
355mlx6 pack	Labatt's Kokanee	4.0%	12.75	1.18	0.24
355mlx6 pack	Northern Extra Light	2.4%	8.90	1.18	0.40
355mlx6 pack	Labatt's Nordic	0.5%	3.99	1.18	1.91
SPIRITS					
750ml	Bacardi 151 (Rum)	75.5%	40.60	19.40	0.59
750ml	Smirnoff (Vodka)	40.0%	22.45	10.78	0.62
750ml	Hiram Walker (Schnapps)	22.0%	20.25	9.49	0.99
330mlx4 pack	Mike's Hard Lemonade	7.0%	7.75	4.30	0.63
355mlx4 pack	Motts Clamato Caesar	5.5%	9.95	2.11	0.26

A close inspection of Tables 6 and 7 shows there is some evidence of price advantages created by lower mark-ups for wine below 7%, beer below 4% (though curiously not below 1%), and for alcoholic sodas, but none at all for spirits. When the minimum mark-ups are analyzed per standard drink, then, with only one or two exceptions, the rate of tax charged is inversely related to the alcoholic content of the beverage, i.e. weaker drinks attract higher rates of taxation than stronger drinks. Thus, there is a *disincentive* for choosing drinks with less alcohol, which is directly counter to what is considered healthy public policy involving alcohol.

Examples of the collective impact of Federal and Provincial taxes on alcoholic beverages for sales in liquor stores

Figures 1 to 3 provide a summary of the net effect of federal and some provincial taxes on a range of alcoholic beverages identified in a liquor store in Victoria, British Columbia. Almost identical patterns apply for a range of similar beverages identified in a liquor store in Ottawa, Ontario, and Hull, Quebec (see Appendices 2 and 3). Note that the 'total tax' figure only includes the three components of GST, excise duty and PST, and does not include various deposits and environmental levies. The latter would not change the pattern of outcomes as they are either 'flat' taxes unrelated to beverage alcohol content or sales taxes. More complete tables providing estimated rates of component taxes per standard drink can be found in Appendices 1, 2 and 3.

Figure 1: Tax per SD for wine in BC

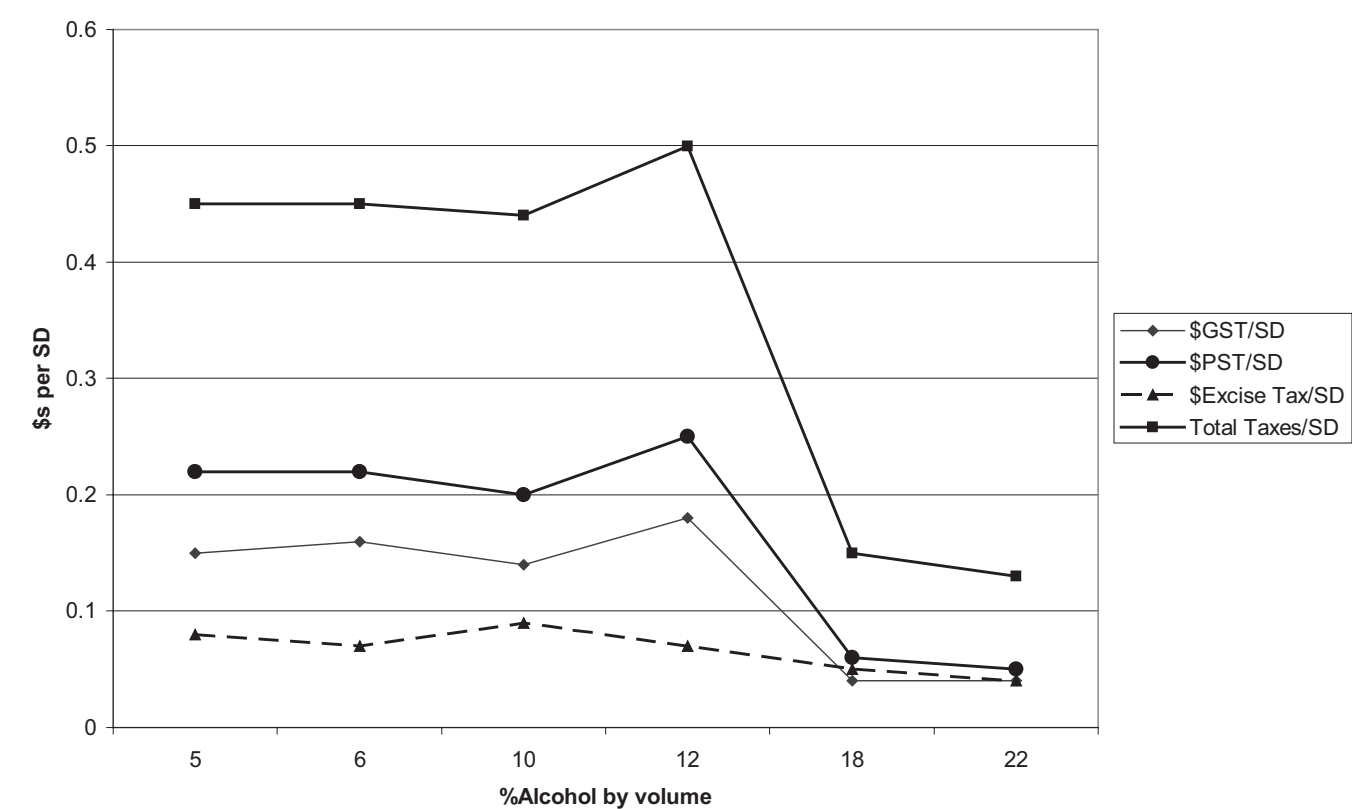


Figure 2: Tax per SD for Beer in BC

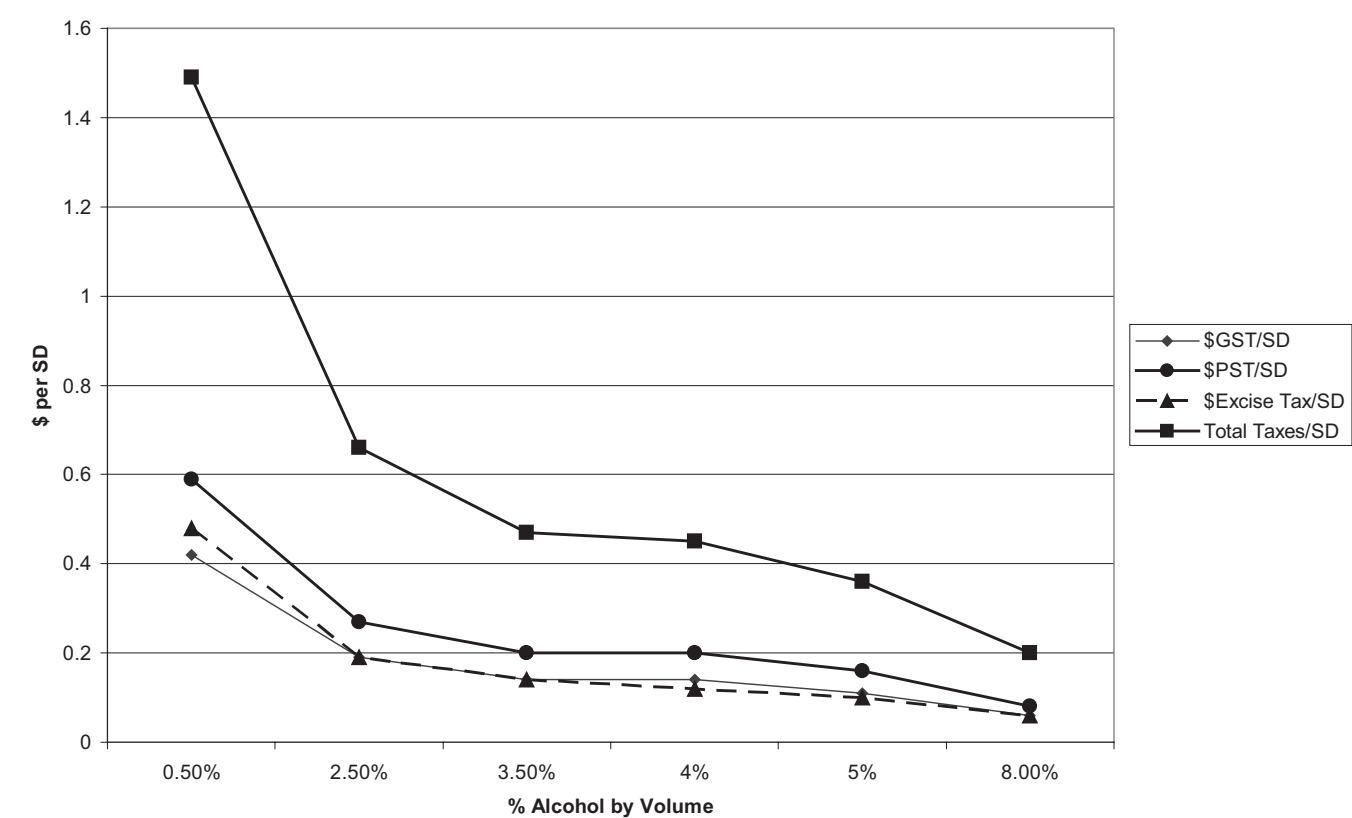
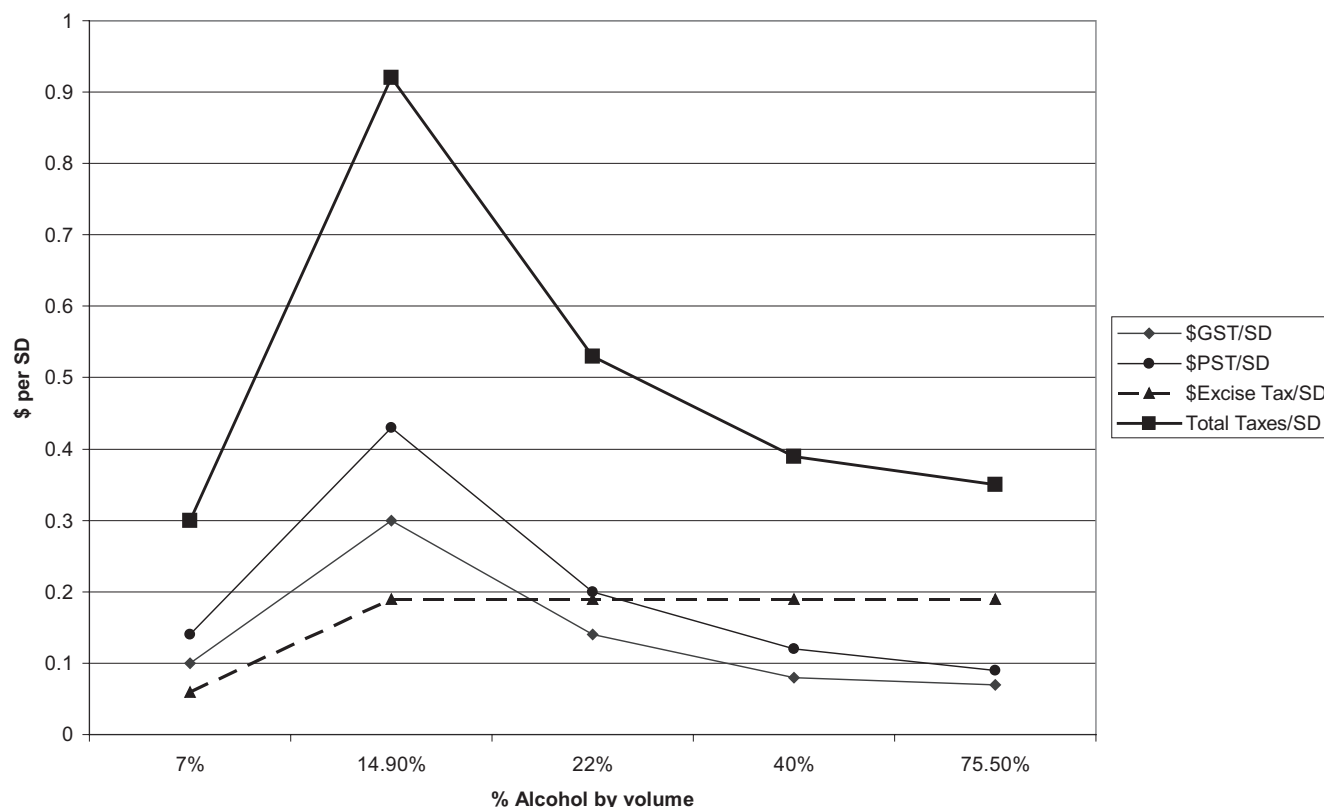


Figure 3: Tax per SD for Spirits in BC



Figures 1 to 3 show that the most common pattern is for taxation per standard drink to be inversely related to alcohol beverage strength. There is only one major exception: a 7% spirit-based cooler has a lower rate of taxation than some higher strength beverages. This latter result is a function mainly of the lower rate of excise on these drinks and the fact that they are also cheaper to produce than higher strength distilled spirits. Looking at the main types of tax, only excise duties for spirits maintain the tax rate per standard drink as beverage strength increases (see dotted line in Figure 3 above). *Other than that, within the categories of beer, wine and reduced-alcohol spirits (<7.1% by volume), the overall effect of Canadian alcohol taxes is to give the greatest advantage to alcoholic drinks with the most alcohol content.* This is in fact due to the major reliance on sales taxes (GST and PST) that are unrelated to alcohol content, and also because excise duty for beer and wine is calculated at a ‘flat rate’ that is quite unrelated to alcohol content within large ranges of percent alcohol content by volume.

Specific examples identified in BC were a 22% strength sherry is taxed at only \$0.13 per standard drink, while a 5% wine-based cooler is taxed at \$0.44 per standard drink (\$0.17 and \$0.40 for similar drinks in Ontario). For beer, a strong beer of 8% sold in BC has a tax of \$0.20 per standard drink, compared with \$0.46 per standard drink for a reduced strength beer (3.5% alcohol content) and an estimated \$0.64 per standard drink for

a 2.5% strength beer (\$0.23, \$0.51 and \$0.65 for equivalent drinks in Ontario). The same situation applies for spirits, with the exception of those with 7% alcohol by volume or less (i.e. spirit coolers). When different categories of beverage with similar strength are considered, there is an enormous variety of total tax per standard drink. As shown in Appendices 1 and 2, in BC, a 7% alcohol spirit-based cooler attracts \$0.30 tax per standard drink (\$0.24 in Ontario), an 8% beer attracts \$0.20 per standard drink (\$0.23 in Ontario), and a 6% bottle of wine attracts \$0.45 per standard drink. In a world where alcohol tax policy was driven first and foremost by health concerns, all drinks would be taxed only in accordance with a combination of their absolute alcohol content and their beverage strength. This would mean that there would be no “price breaks” for any type of alcohol, and high-strength, low-priced products would not exist.

When calculating tax rates per standard drink, there is a degree of inevitability that very low alcohol content drinks will have the highest rates of taxation per standard drink since such a high proportion of taxes are sales taxes. However, even if one examines comparative rates of taxation per litre of alcoholic beverage rather than per standard drink, there are still some anomalies in terms of incentives for consuming lower-strength products. The second last columns of Appendices 1 and 2 summarize these data and show that a) fortified wine is taxed at a considerably lower rate per litre of beverage than table wine;

b) there is a marked price incentive to choose very light beer (0.5% by volume); c) very strong and reduced-alcohol beer are both taxed at the same rate per litre of beverage; and d) spirits is the only category of beverage for which there is a close linear relationship between alcohol content and rate of taxation per litre of beverage. Clearly, this last outcome is a result of both the high rate of excise tax on spirits and the fact that it is mostly applied to the pure alcohol content of beverages, not a “flat tax” of the kind applied to beer and wine.

Of course, it is the final retail price that impacts on the consumer, and these taxes do not precisely mirror prices due to very different costs of production and distribution of different types of beverage. The cheapest alcoholic beverages per standard drink that we identified on the market in BC and Ontario were U-Vin wines in Ontario at \$0.55 (\$0.90 per standard drink in BC), followed by U-Brew beers at \$0.79 in Ontario (\$0.90 in BC), followed by high-strength beer (\$0.99 in both provinces), and high-strength spirits at \$1.11 per standard drink in BC (\$1.23 in Ontario).

Another yardstick to apply when comparing rates of taxation across different drinks is to examine the percentage of the total price that is comprised of taxation. This is depicted in the final

column of Appendices 1 and 2. These estimates show that, while this percentage varies between 18% and 35% of the price of a bottle of spirits (positively related to beverage strength), for beers and wines the percentage of tax in the total price varies within a more narrow range of 17% to 25%. These latter small differences in percentage of the price of beers and wines by and large favour lower strength varieties, but only to a very small degree.

Finally, it is impossible not to comment that U-Vin and U-Brew facilities which manufacture and bottle wine and beer for customers while only requiring them to add yeast to the mixture are completely free of federal taxes in both BC and Ontario, and free of all provincial taxes as well in BC.

In conclusion, the overall impact of Canadian alcohol taxes is to exaggerate the price differences between cheap and expensive varieties of beverages, to provide disincentives for selecting lower strength drinks, to create some positive incentives for selecting high strength products, to make completely tax-free alcohol available under certain circumstances, and to offer only partial protection against the erosion of the level of taxation over time. These findings will serve as a basis for the recommendations outlined below.

IV. Options for creating more purposeful and discerning alcohol pricing and taxation policy in Canada to enhance public health and safety

Considering the strong evidence that policies which impact upon the price of alcohol are among the most powerful available for the effective reduction of alcohol-related harm, the experiences with evaluated changes in alcohol taxes in other countries, and the range of current practices in Canada, three main objectives are identified here to guide possible reforms of alcohol taxes in the interest of public health and safety. In addition, specific examples of possible pricing and tax policy changes are discussed to help add greater specificity to this analysis. In each case, the recommended strategies have been developed with the overarching principles of social equity, administrative efficiency and public health clearly in mind.

Canadian alcohol pricing and taxation policy has developed over a century and a half in a piecemeal manner, and is now immensely complex and not generally reflective of basic health and social concerns. If a major reform of alcohol taxation is to occur, it would help if it achieved the usual economic objectives of efficiency, simplicity, social equity, and ease of compliance (Alvarez et al, 1992) at the same time as promoting positive health and social outcomes. As a starting point, reducing the number of different taxes would help with regards to complexity, and then redesigning the remaining taxes and duties in a purposeful and discerning manner would promote healthier outcomes. For example, one strategy would be to stop applying GST to alcohol and replace it with volumetric excise duties based on alcohol content alone, applicable to all beverage types in a consistent manner in accordance with beverage strength and

indexed to the cost of living. A strategy at the provincial and territorial level would be to roll all alcohol taxes into one single volumetric tax. This would mean that only the alcohol content and volume would need to be factored in when calculating taxes and duties, a much simpler method than the systems used currently. Given the potential public health benefits associated with developing more purposeful and discerning alcohol pricing and tax policy, there is a strong case for these types of policy changes to be made a priority within the emerging Framework for Action on Substance Abuse.

Objective 1: Index tax rates to inflation to prevent increased alcohol consumption and related harm caused by declines in real alcohol prices over time

Justification

The traditional starting point for discussions on alcohol taxation is that it be used to increase prices, thereby reducing consumption and problems related to alcohol misuse (e.g. Edwards et al, 1994; Babor et al, 2003). It is certainly the case that per capita alcohol consumption has increased a little in Canada in recent years (4% since 1999), and that this will almost certainly be associated with a marginal increase in alcohol-related mortality and morbidity (Babor et al, 2003). The recent example of the Republic of Ireland is instructive. Per capita consumption there increased dramatically over the two decades up to 2002, reflecting increased prosperity but also a declining alcohol tax rate that did not keep pace with the cost of living. Adjustments

to the tax rates on spirits and alcoholic sodas in 2002/2003 have already made substantial impacts on the more acute forms of alcohol-related harm (Hope, 2005). As was the case in Australia's Northern Territory, more chronic forms of alcohol-caused mortality did not respond immediately to changes in policy, but there is every reason to believe that over time they will shift, based on reduced levels of consumption (Chikritzhs et al, 2005). The US Center for Science in the Public Interest has documented the major decline in beer taxes in the US in recent decades through a failure to index these taxes to the cost of living (<http://cspinet.org/booze/taxguide/040802BeerReport.pdf>). They find that those states which permit the lowest taxes tend to be those with the highest sales of beer per capita (and vice versa), and also are more likely to have a budget deficit.

It may or may not be possible to update federal excise duties in Canada to catch up with *all* the lost ground since this was last done. This would require at least a 30% increase in federal excise taxes on beer and spirits to match the rise in CPI since 1991 (www.bankofcanada.ca). *At the very least, it is proposed here that the case be made to link all non-sales taxes on alcoholic beverages (excise, minimum prices, and provincial volumetric and flat taxes) to the cost of living, so that this erosion in the effective alcohol tax rate does not occur in the future.*

Strategy 1.1: Index mark-ups and 'Social Reference' Prices to the CPI

Minimum social reference prices are used by several provinces to limit the sale of very cheap alcohol. Given the universally recognized importance of price in relation to alcohol consumption and related harms (Babor et al, 2003), this practice is of enormous potential value in the promotion of public health and safety in Canada. In countries where jurisdictions are not able to exercise this control, it has often been necessary to impose local restrictions on the sale of very cheap beverages, for example, cheap wines that have caused substantial problems in rural Australian communities with a high Aboriginal population (Gray et al, 2000). The efficiency and effectiveness of this minimum pricing policy would be increased if the social reference prices were to be indexed to the cost of living at least annually. While these price rates are periodically updated in some provinces, in others they have been left unchanged for a number of years. This recommendation would provide financial benefits to both governments and the alcohol industry, and would also protect public health and safety. A related recommendation would be to encourage all Canadian jurisdictions to implement social reference pricing. Further, the major impact on final retail prices is the overall mark-up applied in many jurisdictions, and these too should be regularly reviewed to keep pace with inflation.

Responsibility: Provincial and territorial governments

Strategy 1.2: Index alcohol excise duty rates to the CPI

Rates of excise duty on beer, wine and spirits were last raised in mid-1991 to their present rates. Since 1991, the cost of living has increased 30.3% (www.bankofcanada.ca). As discussed earlier, raising alcohol taxes in order to increase prices and reduce

harms is both one of the most effective strategies and also among the least popular, according to Canadian surveys of public opinion (and others internationally). The converse situation of allowing taxes to fall is also clearly indicated as a negative for public health and safety outcomes. We suggest that linking excise tax rates to the cost of living would be sound public health policy, and would probably be well accepted by the community if adequate explanation is provided. This could be tested in public opinion research by exploring whether preventing alcohol from becoming cheaper was more acceptable than actively raising the prices for the sake only of reducing consumption. Furthermore, indexation of excise duties on alcohol was standard in Canada in the early 1980s and currently applies in many other countries such as Australia, where rates of excise are not only applied to the pure alcohol content of beer and spirits (not wine) but are adjusted in line with the CPI twice a year (www.atogov.au). The purpose and principle behind this second recommendation is exactly the same as in the first, i.e. preventing the erosion of the prices of alcoholic beverages over time.

Responsibility: Federal government. Legislation required.

Strategy 1.3: Index all provincial and territorial volumetric and flat taxes on alcohol to the CPI

Many other of the special taxes imposed on alcohol by the provinces and territories are not *ad valorem* and therefore do not keep pace automatically with increases in CPI. It is beyond the scope of this discussion paper to discuss fully all the many separate provincial and territorial taxes in terms of when they were last updated. Suffice to say it appears that the great majority are not indexed automatically to the CPI, and that this contributes significantly to the gradual erosion in the tax rate for alcoholic beverages

Responsibility: Provincial and territorial governments

Objective 2: Close tax loopholes that permit the sale of extremely cheap alcohol to vulnerable groups

Strategy 2.1: Create First Nations Alcohol Treatment and Prevention Funds from local levies on alcoholic beverages sold with federal tax exemptions

Rates of hazardous alcohol consumption and related problems are estimated to be two to three times higher among First Nations peoples than the rest of the Canadian population (Health Canada, 2003) and up to six times higher among Aboriginal youth (Helwig, 2000). While more Aboriginal Canadians abstain altogether from drinking, those who are drinkers tend to binge drink more often, and are more likely to consume alcohol at levels hazardous to their health than the general population (Brady, 2000; Helwig 2000). The need for treatment and prevention programs to promote less hazardous use of alcohol and to treat people with alcohol dependence has long been recognized as a national priority in Canada's Drug Strategy (Health Canada, 1998) and more recently in the *National Framework for Action to Reduce the Associated*

Harms with Alcohol, Other Drugs and Substances in Canada (Health Canada, 2005). The situation is unlikely to be helped by the availability of cheaper alcohol on some First Nations reservations as a result GST exemptions – and some provincial or territorial sales tax exemptions as well. Alcohol sold on these lands (whether by First Nations people or other Canadians) would always include excise duty since that is paid on wholesale prices from government-owned distributors. Seeking to reverse the hard-won constitutional right of First Nations peoples of certain federal tax exemptions on products sold on reservations may not be a viable option. Instead, it is recommended that local options for raising revenue from the sale of alcoholic beverages be explored with First Nations representatives, both to reduce consumption of alcohol and to provide additional funding for much needed treatment and prevention services to this vulnerable population group. As discussed above, there are already at least four First Nation groups based in BC that have the constitutional right to raise their own taxes on these GST-exempt products. The extent to which this is applied to alcoholic products could not been determined while preparing this paper. This is a special example of the more general proposal, provided later, of earmarked taxes on alcohol for prevention, treatment and research. It is also consistent with the success of such a strategy in an Australian jurisdiction with a high Aboriginal population (Chikritzhs et al, 2005). Consistent with other recommendations discussed in this report, if consideration were given to creating new taxes collected by First Nations people for alcohol products sold on their land, it is recommended that a “volumetric” tax be used rather than a “flat” or *ad valorem* tax, since this provides the most protection against low-priced, high-strength alcohol products.

Responsibility: First Nation councils and band leaders

Strategy 2.2: Create tax exemption for beverages dispensed in “wet shelters”

A related recommendation is that consideration be given to tax exemptions on alcoholic beverages that are provided to chronic alcoholics in “wet shelters” in Canada. Wet shelters are hostels or day centres where homeless people with long-term alcohol dependence are provided with controlled amounts of alcohol at regular intervals because they are unable to maintain abstinence. Evaluations of this strategy have indicated improvements in health and general functioning (Crane and Warnes, 2005). If policies are introduced which render high-strength cheap alcoholic drinks more expensive, then there may be a greater need for such services for this group of people, and tax exemptions would reduce the costs of running these wet shelters and provide incentives for their expansion in Canada.

Responsibility: Federal, provincial and territorial governments

Strategy 2.3: Increase taxation on U-Vin and U-Brew operations

U-Vin and U-Brew operations in BC and Ontario provide some of the cheapest alcohol per standard drink in Canada. These facilities are a uniquely Canadian tradition. It is not known to

what extent people who use these facilities are more or less likely than other drinkers to use the product to excess. Research might be commissioned to investigate this. It is questionable whether the sole requirement that the customer add yeast to the mixture early on in the process is sufficient justification for making such cheap alcohol virtually tax-free. A comprehensive revision of the Canadian alcohol taxation system should arguably include additional taxation on these products.

Responsibility: Provincial governments of BC and Ontario

Objective 3: Provide incentives for the manufacture, marketing and consumption of lower strength alcoholic beverages

Justification

As shown clearly in Tables 3 to 7 and Figures 1 to 3 above, the net effect of all alcohol taxation in Canada results in a situation where incentives for customers to choose lower alcohol beverages are mostly absent, and at best inconsistently applied.

The recommendations below are not based on any actual or perceived disparities between taxation of beer or wine and spirits. The tables presented above show very clearly that distilled spirits are mostly taxed at a much higher rate than is beer or wine per litre, per standard drink, and as a percent of price. One exception, however, is in the growing category of alcoholic beverages with the strength of up to 7% alcohol by volume, in which spirit and wine-based drinks are slightly advantaged over similar strength beer in terms of rates of excise duties. A case can be made for justifying a high rate of taxation on very high alcohol content beverages such as distilled spirits with a strength between 40% and 80%, but this is not the basis for the options put forward for consideration below. There is, for example, evidence for an increased preference for spirits among people with alcohol dependence (Klatsky et al, 1990), and closer links between per capita consumption of spirits and liver cirrhosis than other beverages (Roizen and Fillmore, 1991). Klatsky et al (1990) studied correlates of wine, spirits or beer preference among 53,172 white men and women in a US prepaid health plan. A preference for wine was more likely to be expressed by women, light drinkers, young or middle-aged people, non-smokers, people with higher education, and those who were free of symptoms or risk of illness. Persons who prefer spirits were likely to be men, heavier drinkers, middle-aged or older, less educated, and afflicted with symptoms of or risk factors for major illnesses. Persons who prefer beer were likely to be younger, male, and intermediate between wine and spirit drinkers on levels of consumption and health. Furthermore, an analysis of patterns of hazardous alcohol use reported in Australia’s 2001 National Household Drug Survey found that distilled spirits was the beverage variety with the highest proportion of use on hazardous drinking days (78%), compared with regular-strength beer (69%) and table wine (54%) (Stockwell and Donath, 2003). The criterion used here was whether consumption took place on the day in which more

than 60 g of alcohol was consumed by males and more than 40 g of alcohol was consumed by females (i.e. approximately 4 and 3 Canadian standard drinks respectively). For young adults, these proportions were even more alarming, with distilled spirits accounting for 92% of drinks taking place on hazardous drinking days, compared with 78% for beer and 72% for table wine (Stockwell and Donath, 2003).

Against the drift of the above evidence, however, there is also other research suggesting that beer consumption is strongly associated with the problem of drinking and driving and alcohol-related road trauma (Mann et al, in press). This may well be due primarily to beer being the beverage of choice of young males who are at high risk, not only of hazardous alcohol consumption, but also of dangerous driving as well (Gruenewald et al, 1995). In addition, Stockwell et al (1998) conducted a controlled examination of the rates of serious alcohol-related harm in communities across Western Australia, and related these to socio-demographic characteristics as well as per capita consumption of beer, wines and spirits. They found that the beverage types most associated with serious harm (alcohol-related hospital episodes and night-time violence) were cheap bulk wines and “full strength” beers (i.e. around 5% by volume), with spirits trailing behind these products, and low to moderate strength beers (less than 3.8% by volume) being associated with lower rates of serious harm.

For present purposes, it is suggested that there is no practical value in considering proposals that would radically alter the distribution of taxes between the major categories of beer, wine and spirits in Canada. Greatly reducing taxation on distilled spirits to make it equivalent to wine and beer would contribute substantially to an overall reduction in the price of alcohol in Canada and to an overall increase in per capita consumption, which would undoubtedly herald additional public health and safety problems – as happened in Ireland, for example. This would also be a difficult and controversial path to follow, especially if it involved a substantial switch of market share from beer to spirits. Instead it is recommended, on pragmatic grounds, that primary consideration be given to providing incentives within each of these major categories for the consumption of lower-strength products.

There are several aspects to the arguments for promoting the consumption of lower alcohol content beers and wines and spirits for public health and safety purposes. First, there is the fact that there is a clear dose-response relationship between the amount of alcohol consumed and the risk of all major forms of alcohol-related harm, whether this be road crashes, violence, cancers or liver disease (Babor et al, 2003). Furthermore, there is evidence that even experienced drinkers cannot reliably distinguish variations in the strength of their preferred beverages and that, when provided with lower-strength beverages, they do not drink more in order to achieve their usual blood alcohol levels (Geller, 1991). There is also evidence that communities with greater consumption of lower-strength alcoholic beverages

tend to have fewer adverse outcomes, even when other social and demographic characteristics of those communities are controlled (Stockwell et al, 1998), and that licensed premises with increased sales of low-strength beer end up with reductions in numbers of patrons involved in alcohol-related crashes and drink-driving offences (Gruenewald et al, 1999). The analysis of Australian drinking patterns referenced above also found that lower alcohol content beers (which now comprise about 40% of the market in Australia) were much less likely to be consumed on hazardous drinking days. In particular, only 29% of low alcohol content beer consumption (between 2.5% and 3% alcohol by volume) occurred on such days, compared with 57% for mid-strength beers (between 3% and 3.8% alcohol by volume). The percentage was 78% for higher strength beer (Stockwell and Donath, 2003). It is worth noting that there is a dearth of Canadian research into the different patterns of use in different outcomes associated with the consumption of different alcoholic beverages. A classic example is that the 400+ item 2004 Canadian Addiction Survey (Adlaf et al, 2005) only has questions about “standard drinks” and none at all about beverage preferences or different patterns of use associated with these.

These considerations collectively point towards the value of taxation policies which provide price incentives for lower strength alcoholic drinks. There are some modest incentives in some Canadian jurisdictions towards this end but, collectively and especially in relation to federal excise taxes, this major opportunity for promoting public health and safety has not yet been exploited. In fact, when examining tax revenue per standard drink, rates of taxation are actually *higher* on most low alcohol content beverages than on their high alcohol content counterparts. The existing incentives for beers of less than 1.2% alcohol have had negligible impact, possibly because such beverages have minimal intoxicating effect, at least for adults. There are no special tax incentives for beer between 1.3% and 4%, which may explain why there are very few examples of such beers available in Canadian stores (our team identified two at 3.5% and 3.7%), compared with Australia where there are clear tax incentives and where these products account for as much as 40% of the market (Stockwell and Crosbie, 2001). It is noteworthy that most of the beverages sold in Australia with the strength of less than 4% are in the range between 2.5% and 3.8% (Catalano et al, 2003).

The case for creating incentives through tax concessions for lower-strength beverages applies not only to beer but also to wines, spirits-based drinks, and alcoholic sodas with beverage strengths of 7% alcohol by volume or less. As detailed above, the excise rates on these products are all essentially “flat” with respect to alcohol content. There are also discrepancies between rates of taxation on beers, spirit-based drinks and wines in this category, resulting in lower rates of overall tax per standard drink on high-strength beers than on spirit-based sodas and wine-base coolers (see Appendices 1 and 2). The following options are tabled to suggest ways in which taxation could be used to provide

incentives for the consumption of lower-strength products within each of the major beverage categories in Canada.

Strategy 3.1: Redistribute the burden of alcohol taxation to promote the consumption of low alcohol content drinks within major beverage categories

One administratively efficient method of creating price incentives for lower-strength beverages would simply be to define alcohol excise taxes in terms of litres of pure ethanol rather than litres of beverage. That is, convert flat and *ad valorem* taxes to volumetric taxes. This would at a stroke create a positive linear relationship between alcohol content and rate of federal excise taxation within each beverage category. It is also possible that different tiers of tax rates could be set for beverages with different alcohol contents within each major beverage category. Thus, the rates for beer, for example, could build on the current tax incentives for the consumption of very low alcohol products by adding a new tier from above 2.5% to 3.8% or below. In a similar way, excise concessions could be made for lower-strength wines and spirits. The principle of having identical tax rates across main beverage types (i.e. beers, wines and spirits) where the alcohol content of the drinks is identical (e.g. beers, wines and premixed spirits with an alcohol content of 7 to 8%) has some face validity and would provide a degree of equity across different sectors of the industry. It is also likely that the system would create substantial incentives across the board for producers, retailers and consumers to select low alcohol content beverages, thus reducing risk of adverse public health and safety outcomes while maintaining profits for the industry.

Responsibility: Federal government. Econometric modeling would be required to calculate optimal rates of excise duties across all beverage varieties. Legislation would be required to introduce the new system of excise duties.

Strategy 3.2: Create special levies on higher-strength products

A strong case can be made for more general application of special levies for “earmarked” taxes on alcohol in order to fund treatment of prevention responses over and above the case made under 2.1 above in relation to Aboriginal communities. It is clear that such taxes are far more acceptable to the voting public than taxes which go into general revenue. Additionally, it must be acknowledged that finance and treasury departments in government do not usually favour such taxes as they reduce government discretion over expenditure of revenues. This means, however, that small increases in the price of alcohol can be created that have direct public health and safety benefits and which, in addition, are usually more acceptable to the general public. There is also strong evidence that when such levies are assessed at five cents per standard drink, measurable reductions in alcohol-caused deaths and other health and social costs associated with alcohol misuse occur (Chikritzhs et al, 2005; Stockwell et al, 2001). Considering that per capita consumption of alcohol in Canada was 7.9 litres of pure ethanol in 2004 (Statistics Canada, 2004), this means that five cents levied per

standard drink of alcohol (13.6 g or 17.2 mL) would have raised approximately \$597 million, or approximately a 49% increase in overall excise duties and an 8% increase in overall alcohol taxation. If such a levy was only applied to alcoholic drinks of more than 3.8% alcohol by volume, slightly less revenue would be collected, but this would have the additional benefit of promoting the consumption of lower alcohol products. The twin advantages of the latter approach are that (i) it follows the successful precedent in Australia’s Northern Territory of only taxing higher strength drinks, and (ii) it encourages the manufacture, promotion and consumption of lower-strength beverages, which also happened in Australia’s Northern Territory (Stockwell et al, 2001; Chikritzhs et al, 2005). Of course, such a large increase in overall alcohol taxation would be controversial. The policy option of introducing an earmarked or ‘hypothecated’ tax can of course be applied at any level of beverage strength, but to have a direct impact on consumption levels, as opposed to merely raising revenue, it would probably need to be in the range applied in the Australian example. At least 10 US states have excise taxes earmarked for treatment and prevention purposes: Arizona, Idaho, Kansas, Mississippi, Montana, New Jersey, Nevada, Oregon, Tennessee and Utah (www.ensuringsolutions.org). Washington State has an earmarked tax for research into alcohol-related problems.

Responsibility: Federal, provincial and/or territorial governments

Strategy 3.3: Redistribute ad valorem (sales-based) taxes to index-linked volumetric (alcohol-content-based) taxes

A great amount of tax revenue from alcoholic beverages in Canada is collected through some form of *ad valorem* or sales taxes. If provincial mark-ups are accepted as being mostly *ad valorem* in their application (see Table 6), along with the GST, PST and HST, approximately 75% of Canadian alcohol taxes are applied to the retail price of alcohol rather than its alcohol content (estimated from Table 1). From a public health standpoint, this has the advantage of automatically linking most taxation to the cost of living and avoids the need for regular adjustment, unlike the situation with social reference prices and federal excise taxes. The great disadvantage of sales taxes from a health and safety perspective is that they are applied based only on the cost of production, and hence they in effect ‘stretch out’ the price-quality spectrum: expensive drinks become more expensive and cheap drinks stay very cheap. Real problems occur at the bottom end of the market, with cheap, high-strength products favoured by high-risk populations – such as bulk and fortified wines in Australia (Stockwell and Crosbie, 2001). Canada has also experienced problems with cheap fortified wines which have in the past been de-listed from monopoly liquor stores (McDonald, S., personal communication). In Australia, this problem is magnified by there being no volumetric taxes (alcohol-content-based taxes) for wine, a policy designed to encourage wine exports (Stockwell and Crosbie, 2001). Any shift from price-based *ad valorem* taxes to alcohol-content-based

taxes, providing they are indexed to the cost of living, would enhance the incentives for producing lower alcohol content products within each beverage category. Administratively, an efficient federal approach would be to make alcoholic beverages GST-exempt, but then increase federal excise duties on the ethyl alcohol content of drinks in order to raise an equivalent amount of revenue – while also applying excise duties to alcohol content rather than volume of beverage. This would remove one tax and make another more efficient for promoting positive health and social outcomes. Provincial governments also have opportunities to follow Alberta's example of applying their provincial mark-ups and levies to some degree in accordance with the alcohol content

of different beverages. Across most Canadian jurisdictions, there is also the fact that beer is taxed at a 'flat rate', the worst of all possible scenarios for health and safety. Administratively, it should be possible to reduce the great number of individual levies and rates applied provincially, and create one tax structure harmonized across different beverage categories and mainly in accordance with alcohol content. This would create strong price incentives for lower strength varieties of wine, beer and spirits.

Responsibility: Federal, provincial and territorial governments. New legislation would be required in most cases.

V. Recommendations for future research on alcohol pricing and taxation policy in Canada

A number of gaps and deficiencies in available information were identified in the preparation of this report. As well, there are areas of inquiry that would be valuable if any of the proposals set out above were to be implemented in Canada. Some recommendations for new Canadian research in the area of alcohol are outlined below:

- i) **Beverage-specific surveys of patterns of use and related harms.** Future surveys designed to capture patterns of alcohol consumption and related harms should include at least some information on beverage preferences so that we are better able to monitor comparative risks. This would also provide baseline data for some basic monitoring of the impacts of possible future changes in alcohol taxation structure.
 - ii) **Beverage-specific data about consumption patterns of people in treatment settings and in high-risk population groups.** Attempts were made to identify data on people seeking treatment for alcohol dependence and problematic alcohol use regarding beverage preferences. No formal or informal data of this type were available for Canada from any jurisdiction. An examination of beverages that are particularly sought out by people with problematic patterns of drinking would shed light on this issue in Canada and, again, potentially contribute to the evaluation of any future changes to alcohol pricing and taxation policy.
 - iii) **Focused studies on people using U-Brew and U-Vin facilities to investigate the extent of hazardous alcohol consumption in comparison with the wider community.** Application of new survey methods in, for example, the next application of the Canadian Addiction Survey could investigate this matter systematically (e.g. Stockwell et al, 2004).
 - iv) **Experimental local studies examining impacts of tax changes in individual jurisdictions using objective data on alcohol-related harms and time series analyses.** Canada's federal system of government provides a perfect opportunity to implement innovative strategies and evaluate their impacts. Changes that affect the price of alcohol across a whole
- population are worthy of evaluation for their impact on public health and safety outcomes. Sophisticated models already exist for conducting such evaluations of strategies implemented within a particular jurisdiction, with controls in neighbouring jurisdictions to help better determine causality (e.g. Chikritzhs et al, 2005).
 - v) **Studies with Aboriginal communities regarding options for local levies.** Given the worrying combination of high levels of alcohol problems on the one hand and of access to cheaper alcohol on the other on some First Nation reservations, a careful and sensitive exploration of this issue is warranted. It would be valuable to simply identify the extent to which the opportunities for raising local tax revenue for such communities are being used, and whether they might be extended more broadly.
 - vi) **Econometric modeling of new rates of taxation to achieve public health and safety outcomes.** No recommendations have been provided for specific new rates of taxation in this report. This is a complex area, as any change in the rate of tax on one product impacts on the sale and consumption of others, sometimes in different beverage categories. In addition, any overall changes in the rate of taxation will impact overall levels of consumption. If the aim of the reform is to maintain stability of market share across the major stakeholders of beer, wine and spirit producers while furthering the goals of public health and safety, then sophisticated modeling of optimal rates of taxation is required, using different scenarios.

VI. Conclusions

This report makes the case for public health and safety to be considered in the future development of alcohol pricing and taxation policy in Canada. It is possibly easy to agree that the present system is complex, unwieldy, not particularly attuned to public health concerns, and is not responsive to changes in the CPI. It is also easy to recommend directions for future reform, but it will be much harder to gain the right consensus and political momentum to make progress in this most difficult of alcohol policy areas. It is hoped that this report, which outlines how the present system operates and the impacts that pricing and taxation policy have on the choices consumers make, will be useful for the National Alcohol Policy Working Group as they consider feasible next steps regarding alcohol pricing and taxation policy in Canada. Alcohol tax revenues account for a non-trivial proportion of government budgets, and proposals to modify how these are collected will inevitably be greeted with nervousness by finance departments. Further, there is evidence that revenue from alcohol is used by most jurisdictions as an “emergency” relief valve, because rates of alcohol taxation are sometimes adjusted during mid-budget reviews to help deal with projected revenue shortfalls. Thus, alcohol taxation is important not only for the amount that it contributes to budgets, but also for the flexibility it affords governments.

From a public health point of view, the case for using taxes to reduce high-risk drinking behaviour and prevent alcohol-related death, injury and illness is very strong (Babor et al, 2003). In Canada, it has been estimated that approximately 5,000 people died prematurely in 2002 from the effects of excessive alcohol use (Rehm et al, in press), after allowing for estimates of the health benefits of moderate consumption for the prevention of heart disease. Undoubtedly, the stakes on all sides are high. Some of the recommendations in this paper can be pursued immediately if finance departments and provincial governments, or even the federal government, are willing to consider using taxation to advance public health and safety. The analyses presented above show that there are many aspects of the present system that provide incentives for choosing alcoholic beverages that are hazardous to health and safety. A number of principles have been identified which could be applied to remedy this problem, and careful econometric modeling would assist in determining optimal rates of taxation for Canada.

In summary, it is proposed that (i) the federal, provincial and territorial governments should accept the weight of evidence that policies on alcohol taxes impact significantly on public health and safety, and (ii) consideration be given to applying the principles identified in this paper and to moving towards a system of taxation that aims to minimize the health, social and economic impacts of excessive alcohol use. A number of specific options for the reform of taxation and actions to achieve these are recommended for consideration by the National Alcohol Strategy Working Group.

1. The federal government be encouraged to promote legislation that will:
 - a) link federal excise duties to the CPI;
 - b) apply excise duties to the ethyl alcohol content and strength of beer, wine and spirits, rather than retail price or volume of beverage;
 - c) adjust excise duties to compensate in whole or in part with the increases in CPI since the last adjustment in 1991, and contribute additional revenue towards treatment and prevention of alcohol-related harm in Canada;
 - d) replace the GST on alcoholic beverages with an additional compensatory increase in excise duties based only on the volume of ethyl alcohol in beverages.
2. Provincial and territorial governments similarly review sales taxes, minimum pricing and levies on alcohol, and introduce new legislation which will achieve the following outcomes:
 - a) introduce incentives for the consumption of lower alcohol content beers, wines and spirits, principally by reducing the number of present taxes on alcohol to a single tax based only on beverage strength;
 - b) ensure all alcohol taxes, levies and mark-ups are directly linked to the CPI and updated at least annually;
 - c) remove or at least reduce tax exemptions on U-Brew and U-Vin products;
 - d) seek to simplify and reduce the number of alcohol taxes to just one or two that efficiently achieve public health and safety outcomes at the same time as maintaining current revenue generation;
 - e) consider creating tax exemptions for alcohol dispensed in wet shelters for homeless people with chronic alcohol-related problems;
 - f) consider earmarking some alcohol tax revenues to provide standardized funds for alcohol treatment and prevention services.
3. In order to facilitate these outcomes, it is recommended that the National Alcohol Strategy Working Group:
 - a) promote a national forum on alcohol taxation and public health, involving economists, public health experts and policy makers, to improve understanding and generate debate about this important issue;
 - b) recommend new lines of research that will further inform policy development in this area;
 - c) attempt to create a dialogue between health and finance departments at the federal, provincial and territorial levels of government towards reforms of taxation in the interests of public health.

The complexity of current alcohol pricing and taxation systems in Canada is highly varied and complex. However, its variability and complexity also create excellent opportunities for the implementation of a new, more efficient system in which prices and taxes are used in a “purposeful and discerning manner” in the interests of the health and safety, while allowing for the social and economic benefits derived from the responsible production, sale and consumption of alcoholic beverages in Canada to be maintained.

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Appendix 1: Summary of Federal and Provincial taxes on alcohol (per standard drink) applied to different strength alcoholic drinks in a BC Liquor Store

Beverage	Brand Name	% Alcohol	\$ Retail	\$ Deposit	SDs	\$/SD	GST/SD	PST/SD	Excise Tax/SD	Total Taxes /SD	\$ Total tax/litre of drink	Tax % \$ Retail
WINE												
750ml sherry	Andres	22.0%	6.19	0.1	9.58	0.64	0.04	0.05	0.04	0.13	1.69	20.84
750ml sherry	Brights 74	18.0%	5.69	0.1	7.84	0.71	0.04	0.06	0.05	0.15	1.60	21.40
750ml wine	Yellow Tail	12.0%	15.55	0.1	5.23	2.96	0.18	0.25	0.07	0.50	3.51	17.02
750ml wine	White Zinfandel	10.0%	9.99	0.1	4.14	2.39	0.14	0.20	0.09	0.44	2.43	18.41
750ml wine	Zinfandel	6.0%	6.99	0.1	2.61	2.64	0.16	0.23	0.07	0.45	1.58	17.21
23 litres U-Vin	Barolo USA & Chile	12.0%	144.00	0.00	160.32	0.90	0.00	0.00	0.00	0.00	0.00	0.00
BEER												
355mlx6 pack	Colt 45	8.0%	9.99	0.6	9.90	0.95	0.06	0.08	0.06	0.20	0.92	20.88
355mlx6 pack	Labatt's Blue	5.0%	11.59	0.6	6.19	1.78	0.11	0.15	0.10	0.35	1.03	19.95
355mlx6 pack	Labatt's Kokanee	4.0%	11.59	0.6	4.95	2.22	0.13	0.19	0.12	0.44	1.03	19.95
355mlx6 pack	Pacific Traditional Light	3.5%	10.09	0.6	4.33	2.19	0.13	0.19	0.14	0.46	0.93	20.81
355mlx6 pack	[Hypothetical]	2.5%	10.08	0.6	3.09	3.06	0.18	0.26	0.19	0.64	0.93	20.82
355mlx6 pack	Labatt's Nordic	0.5%	4.50	0.6	0.62	6.30	0.38	0.54	0.48	1.40	0.41	22.17
48 litres U-Brew	Brook Brewing	5.0%	125.00	0.00	139.41	0.90	0.00	0.00	0.00	0.00	0.00	0.00
SPIRITS												
750ml spirits	Bacardi Amber (Rum)	75.5%	36.59	0.1	32.89	1.11	0.07	0.09	0.19	0.35	15.40	31.66
750ml spirits	Smirnoff (Vodka)	40.0%	23.59	0.1	17.43	1.35	0.08	0.12	0.19	0.39	8.97	28.63
750ml spirits	Hiram Walker (Schnapps)	22.0%	22.75	0.1	9.58	2.36	0.14	0.20	0.19	0.53	6.82	22.57
750ml spirits	Flize Gold Passion	14.9%	32.55	0.1	6.49	5.00	0.30	0.43	0.19	0.92	7.93	18.33
330mlx4 cooler pack	Mike's Hard Lemonade	7.0%	9.23	0.4	5.37	1.65	0.10	0.14	0.06	0.30	1.22	18.21

Appendix 2: Summary of Federal and Provincial taxes on alcohol per standard drink applied to different strength alcoholic drinks in an Ontario Liquor Store

Beverage	Brand Name	% Alcohol	\$ Retail	\$ Deposit	SDs	\$/SD	GST/SD	PST/SD	Excise Tax/SD	Sp Levy/SD	\$ Addit'l Tax Levy	Total Taxes/SD	Tax/Litre of Drink	% Tax/Retail
WINE														
750ml sherry	Brights - Pale Dry	20.0%	6.65	0	8.71	0.76	0.04	0.08	0.04			0.17	1.93	21.74
750ml sherry	Andres - Medium Dry	18.0%	6.65	0	7.84	0.85	0.05	0.09	0.05			0.18	1.93	21.74
750ml wine	Yellow Tail	13.5%	11.95	0	5.88	2.03	0.12	0.20	0.07			0.39	3.06	19.18
340mlx4 pack	Yuha Mango Citrus	5.0%	8.95	0	3.83	2.33	0.14	0.24	0.03			0.40	1.18	17.34
U-Vin wine	Weemacs Winemaking	13.5%	90.00	0	164.68	0.55	0	0	0	0.017	5.40	0.02	0.13	3.11
BEER														
710ml bottle	Colt 45	7.0%	2.95	0.1	2.89	0.99	0.06	0.10	0.07			0.23	0.92	22.94
355mlx6 pack	Labatt's Blue	5.0%	11.95	0.6	6.19	1.83	0.11	0.19	0.10			0.39	1.13	21.22
355mlx6 pack	Labatt's Kokanee	4.0%	12.75	0.6	4.95	2.45	0.14	0.25	0.12			0.51	1.19	20.87
355mlx6 pack	Northern Extra Light	2.4%	8.90	0.6	2.97	2.80	0.16	0.28	0.20			0.65	0.90	23.15
355mlx6 pack	Labatt's Nordic	0.5%	3.99	0.6	0.62	5.48	0.32	0.55	0.48			1.36	0.39	24.76
U-Brew beer, 48 litres	Brewer Select	5.0%	110.00	0	139.41	0.79	0	0	0	0.045	6.24	0.04	0.13	5.67
SPIRITS														
750ml spirits	Bacardi 151 (Rum)	75.5%	40.60	0	32.89	1.23	0.07	0.12	0.19			0.43	18.96	35.03
750ml spirits	Smirnoff (Vodka)	40.0%	22.45	0	17.43	1.29	0.08	0.13	0.19			0.44	10.30	34.40
750ml spirits	Hiram Walker (Pepper mint Schnapps)	22.0%	20.25	0	9.58	2.11	0.12	0.22	0.19			0.58	7.36	27.27
330mlX4 pack	Mike's Hard Lemonade	7.0%	7.75	0	8.05	0.96	0.06	0.10	0.04			0.24	1.47	24.98
355mlX4 pack	Motts Clamato Caesar	5.5%	9.95	0	6.81	1.46	0.09	0.15	0.05			0.33	1.59	22.71

Appendix 3: Summary of Federal and Provincial taxes on alcohol per standard drink applied to different strength alcoholic drinks in a Quebec Liquor Store

Beverage	Brand Name	% Alcohol	\$ Retail	\$ Deposit	SDs	\$/SD	GST/ SD	PST/ SD	Excise Tax/SD	Per Litre Prov Tax	\$ Addit'l Tax Levy	Total Taxes/ SD	Tax/L Drink	%Tax/ \$Retail
WINE														
750ml wine	Farnese	12.5%	10.50	0	5.45	1.93	0.12	0.13	0.071	0.67	0.12	0.437	3.18	0.23
750ml sherry	Brights 74	18.0%	11.25	0	10.46	1.08	0.07	0.07	0.071	0.89	0.12	0.329	3.44	0.31
BEER														
590ml x 2	Colt 45	8.0%	4.85	0.4	5.48	0.81	0.05	0.05	0.060	0.47	0.12	0.286	1.33	0.35
341mlx6 pack	Labatt's Blue	5.0%	9.25	0.6	6.19	1.40	0.09	0.09	0.093	0.82	0.11	0.383	1.16	0.27
341mlx6 pack	Labatt's Kokanee	4.0%	9.25	0.6	4.95	1.75	0.11	0.11	0.116	0.82	0.11	0.451	1.09	0.26
SPIRITS														
750ml spirits	Smirnoff (Vodka)	40.0%	21.75	0	17.43	1.25	0.08	0.08	0.191	0.67	0.12	0.471	10.95	0.38
750ml liqueur	Hiram Walker (Schnapps)	22.0%	20.95	0	9.58	2.19	0.13	0.14	0.191	0.67	0.11	0.581	7.42	0.27
330mlx4 pack	Mike's Hard Lemonade	7.0%	11.20	0	8.05	1.39	0.09	0.09	0.004	1.17	0.12	0.303	1.85	0.22
355mlx4 pack cooler spirits	Motts Clamato Caesar	5.5%	12.00	0	6.81	1.76	0.11	0.12	0.004	1.26	0.12	0.350	1.68	0.20



Head Office

University of Victoria
PO Box 1700 STN CSC
Victoria, BC V8W 2Y2
Phone: (250) 472-5445
Email: carbc@uvic.ca
Web: www.carbc.uvic.ca

Communication & Resource Unit

University of Victoria
#2210-1177 West Hastings Street
Vancouver, BC V6E 2K3
Phone: (604) 408-7753
Fax: (604) 408-7731
Web: www.silink.ca