

Sobering Result:

The Alberta Liquor
Retailing Industry
Ten Years after
Privatization

By Greg Flanagan

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About the author

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Greg Flanagan

Abstract

In 1993/94 the Alberta Government implemented major policy changes involving the control, taxing, and distribution of liquor products. These changes included privatization of the retail and warehousing functions, switching from an *ad valorem* (percentage of price) to a unit (flat) tax system of alcohol excise taxes, and the ending of direct control of liquor regulation and moving to a legislative and enforcement approach. Ten years later the retail industry has evolved into monopolistic competition with its inherent excess capacity and high costs. The government has lost effective control of the liquor industry which will likely continue to evolve into an oligopolistic market structure as chain stores get greater control. Against the trends in other jurisdictions, liquor consumption has increased (with its potential risks of increasing social ills), wholesale costs have risen, and retail prices have increased. Although retail prices have increased, the tax revenues to government have fallen significantly.

Executive Summary

In 1993/94 the Alberta Government implemented major policy changes involving the control, taxing, and distribution of liquor products. These changes included 1) privatization of the retail and warehousing functions, 2) switching from an *ad valorem* (percentage of price) to a unit (flat) tax system of alcohol excise taxes, and 3) the ending of direct control of liquor regulation and moving to a legislative and enforcement approach.

The main changes in the industry ten years after privatization include the following: Retail outlets (excluding off sales) have more than tripled from 310 to 983. The individual stock items have increased over five-fold, from 3,325 to 17,000. Jobs have increased from approximately 1,300 to 4,000, while wages have fallen from over \$14 per hour (in current dollars), plus a benefit package and civil service pension, to approximately \$7 per hour. Warehousing has changed. The one publicly-operated warehouse in St. Albert, in 1993, is now operated by a private firm, and three private firms are licensed to wholesale beer out of warehouses in Calgary and Edmonton.

Approximately 75% of Canadians consume alcoholic beverages. Estimates suggest 10% of consumers purchase 50% of the products sold. Average consumption of alcoholic beverages has been falling over the decades across Canada (Figure 2.1). Using international comparisons, Canadians are more moderate drinkers when compared to Americans and Europeans (Tables 2.1 & 2.2). The declining importance of expenditure on alcohol by Canadians is also shown by the fall in expenditures on alcohol as a percentage of consumer expenditure. Alcohol expenditure in 2000

was 1.72% of the average consumer's budget. This was 7.5% lower than in 1996 at 1.86%. Two-thirds of alcoholic beverages are sold in retail outlets, and approximately one-half of the sales are on beer products (Table 2.3).

Comparing provinces, Alberta has the highest per capita consumption of alcohol when measured by dollar value of expenditures or absolute alcohol consumed (Figure 2.2). Calgary rates the highest for major metropolitan areas, while Edmonton is a modest eighth (Figure 2.3). The consumption of alcoholic beverages is positively correlated with income (Figure 2.4). When calculated as a percentage of income, Alberta's expenditures on alcohol are closer to the national average and that of its neighbours (Figure 2.5).

Social issues relating to alcohol consumption include ill-health effects, fetal alcohol syndrome, family violence and divorce, lost work and productivity, and crime including impaired driving. Against the general backdrop of falling crime rates in Canada (Figures 3.1, 3.2, & 3.3), there is local evidence that crime is associated with alcohol availability and price (Table 3.1). Greater ethnographic study needs to be done in order to determine if liquor privatization, and the resulting changes in marketing, are associated with crime rates. Alberta has the second highest impaired driving charge rates in Canada (Figure 3.4). Edmonton and Calgary are first and third, respectively, in metropolitan area comparisons (Figure 3.5). These rates appear to be relatively stable over the last seven years (Figure 3.6).

Public policy issues are created by the special characteristics of liquor as a consumer product. The potential misuse of alcohol and its associated problems lends support to those who call for

public regulation and control in the marketing of alcoholic beverages. A major responsibility of government is to protect the interest of the general public against the abuse of alcohol and its costs imposed by a minority.

The socially responsible marketing of alcohol appears to be less effective with the private retailing of liquor when compared to a public retail system. The efforts to restrict or prevent sales to certain high-risk individuals are incompatible with the profit motive in private marketing. Regulation and enforcement become necessary, which, at the very least, add additional public costs. Additionally, there is greater potential for illegal liquor manufacturing or smuggling and sales under a system with a large number of private retailers. Again, policing, necessary in order to prevent this activity, incurs increased public costs.

Taxes on alcohol are imposed by both federal and provincial governments. There are a number of arguments to justify this type of excise tax. Liquor consumption generates social costs, liquor is a luxury product, it has an inelastic demand, and its consumption is complementary to leisure. A tax on liquor does two main things. It increases the price of alcoholic beverages, reducing consumption, as well as any associated social ills (Figure 5.1). It brings in revenue to governments, and the tax revenue obtained can (potentially) be used to help correct or compensate for these negative effects.

Alcohol excise taxes can be either charged per unit or as a percentage of price (*ad valorem*). An *ad valorem* tax is greater the higher the price of the product, and has the advantage that it automatically rises with inflation. This type of tax also has a progressive tax effect if, as in the case for alcohol beverages, people with higher incomes buy more expensive alcohol products. Alberta shifted to a unit tax system after privatization. The advantage of a unit tax is that the amount of tax is independent of the price of the product. Also, a unit tax does not change with price fluctuations—

an advantage where prices are volatile. A unit tax will favour expensive products over cheap ones because the tax will comprise a smaller percentage of the purchase price of the expensive product. The initial (1993) unit tax rates were decreased as the private marketing of alcohol led to price increases (Tables 4.1 & 4.2). This has resulted in lost revenue to the province from alcohol beverages. Liquor revenue is down, measured either: as a percentage of total government revenues (Figure 4.1), on a per capita constant dollar basis (Figure 4.2), or on the basis of current dollar per unit absolute alcohol sold (Figure 4.3). The lost revenue may exceed \$500 million over the last ten years (Table 4.3).

Liquor prices in Alberta track the Canadian average closely, but spike with privatization in 1993, and then level out as tax rates decreased (Figure 5.2). When liquor prices are compared with “all other items” in Alberta, it appears the unit tax has dampened the changes in liquor prices, until they take off in 2001 (Figure 5.3). And, over the period of privatization, liquor prices have been more volatile in Alberta than in the rest of Canada (Figure 5.4). Over the last decade, liquor prices have increased more in Alberta than in British Columbia (Figure 5.5). Current retail prices are similar in the two provinces, on average, but show considerable variability between stores in Alberta (Table 5.1). If the unit tax system had maintained relative tax revenue, wholesale prices would be considerably higher in Alberta today than they are. These lower taxes have dampened the upward pressures on wholesale price, limiting retail price increases. The interesting thing about liquor is that a low price is not (or should not be) an objective in the responsible control of alcohol consumption. Public welfare is higher when price is high, consumption is low, and revenues obtained compensate for the social costs.

The number of liquor stores in Alberta has increased dramatically and is high compared to

other jurisdictions (Table 6.1 & Figure 6.1). Liquor retailing in Alberta is currently a “monopolistically competitive” industry, one in which there are a large number of firms, but each firm produces a product that is “differentiated” from that produced by its competitors. Product differentiation occurs in a number of ways. These include location, the specific selection of products to stock, product expertise, store decor, opening times, advertising, customer loyalty programs, and discounting. Since each firm produces a similar but somewhat different product compared to every other firm in the industry, there is an incentive for each firm to play up the difference in its product in order to boost its sales. Product differentiation allows for an inefficient number of outlets and significantly increases the costs of retailing. Prices have increased, but not to the degree they might have, because the share taken as government revenue has fallen.

The wide variability in prices now found in Alberta demonstrates the degree of differentiation. Additionally, liquor producers appear to be utilizing their market power in order to set prices and pass on increased servicing and marketing costs due to the numerous individual stores now in the Alberta liquor retailing industry (Table 6.3). These costs have increased the landed costs, pushing up wholesale prices (Figure 6.4).

Chain stores are now increasing their presence as they realize economies of scale from administrative advantages, advertising, and mini-warehousing (Table 6.2). However, these advantages are currently constrained by the wholesale price system, where each firm pays the same wholesale and transportation charges, regardless of the actual cost.

Conclusions:

- The retail liquor industry in Alberta has been evolving over the past decade following the

change from a government monopoly to a competitive private market and the change from an *ad valorem* tax to the unit (or flat) tax markup.

- Evidence on the links between alcohol consumption and social ills is overwhelming. Absolute alcohol consumption is high in Alberta relative to the rest of Canada and has begun to climb since 1997. The potential for increased social costs is real.
- Socially responsible marketing would educate the public about such dangers as drinking and driving and fetal alcohol syndrome. The public’s objective is to minimize the abuse of alcohol through the limit and control of the sale of liquor, in particular to prevent the sale to underage consumers and the intoxicated. In contrast, the objective of private firms is to sell product. A publicly-owned and controlled system of distribution does not have this inherent incompatibility of incentives.
- Private retailing of liquor has required greater regulation and enforcement costs. Some of these costs are incurred in the Ministry while others are shifted to local police departments.
- Alberta Government revenues from the sale of alcohol have stayed constant in absolute current dollars. This means that, with inflation, population growth, and growth in sales, revenues have fallen between 1993 and 2001. Prices have increased, but not to the degree they might have because the share taken as government revenue has fallen.
- The change from a government monopoly to a private market has resulted in a monopolistically competitive market structure. Some consumer advantages include greater convenience with the increase in

number of stores, including more stores in rural small towns, and stores are open longer and later hours. The disadvantages include inefficiencies in the form of excess capacity, duplication, and redundancy, particularly in urban centres. This inefficiency generates considerable higher costs of retailing, even though wages are at half of those compared to other jurisdictions.

- The liquor retailing market has been handicapped in its ability to achieve market efficiencies by the control on the wholesale distribution and transportation costs and the restriction requiring stand-alone outlets. However, there are some economies of scale yet to exploit, facilitating the expansion of retail chains. Future directions in the industry appear to favour large grocery chains such as Safeway, the Real Canadian Superstore, the Calgary Cooperative Association Ltd., IGA, and others.

- Prices for liquor products in Alberta are comparable to those found in British Columbia (January 2003). However, tax revenues returned to government are much lower in Alberta. This means the privatization effort has been supported and subsidized by the government through a reduction in the tax share of the final retail price. This reduction in tax revenue has limited the greater escalation of prices due to the cost increases caused by excess capacity.

In summary, the Alberta government has lost effective control of the liquor industry, which will likely continue to evolve into an oligopolistic market structure as chain stores get greater control. Against the trends in other jurisdictions, liquor consumption has increased (with its potential risks of increasing social ills), wholesale costs have risen, and retail prices have increased. Although retail prices have increased, the tax revenues to government have fallen significantly.

1 Introduction

In the provincial referendum of November 1923, following an unsuccessful attempt at prohibition, Albertans chose a government-controlled liquor distribution and sales system that promised to control crime and raise money for the province.¹ The Alberta Liquor Control Board (ALCB) began operation the following year. A grand compromise had been achieved between prohibitionists and the ‘moderates’ who wanted legal access to alcoholic beverages. Seventy years later, on September 2, 1993, Dr. Steven West² announced in the legislature a major policy shift in the regulation and control of liquor. This announcement overturned a liquor distribution system that appeared to be working well, for all intents and purposes, for over seven decades.

The Alberta government implemented the new policy through the fall and winter of 1993 and into the spring of 1994. The policy included three major changes in the way distribution of alcoholic beverages was to be treated. First, the government backed away from the direct regulation and control of liquor, moving to a much looser legislative and enforcement model. Second, the ALCB retail stores were closed and the buildings or leases were sold. Retailing liquor in the province changed from a virtual monopoly, government-owned and operated system, into a privately-owned competitive market-driven industry. And third, the method of taxing liquor was changed from an *ad valorem* system of percentage markup over costs to a unit or ‘flat’ markup system.

Was this change purely ideological—a belief in the transcendence of market competition? Certainly, neither the demise of the ALCB nor the deregulation of alcohol was demanded by the

public; it was not an election issue in the 1993 campaign; there was little if any debate, analysis, or other consideration of the implications for social well-being that would arise from this dramatic change in government policy; and there was no referendum this time out.

1. A Brief Description of Alcoholic Beverage Distribution in Alberta

Prior to privatization in 1993, the distribution and sale of alcoholic beverages were almost completely under the direct control of the government. There were 208 Alberta Liquor Control Board (ALCB) retail stores, 49 ALCB-regulated agency stores (first allowed in 1990), 30 private retail beer stores (introduced in the 1970s), and 23 private wine boutique stores (first allowed in 1985), for a total of 310 outlets. Additionally, there were 548 licensed off-sales outlets in hotels and five manufacturers’ off-sales. The number of products or stock-keeping units (SKUs) listed in the publicly-owned and operated central warehouse in St. Albert was 3,325. There were approximately 1,300 full and part-time positions in ALCB retail stores, along with additional warehouse employees. Wages for a sales clerk were over \$14 per hour (in current 1993 dollars) and full-time employees had public service pensions and a full benefit package. Prices were the same across the province in ALCB-controlled liquor stores. The government set the retail prices by adding an *ad valorem* tax (markup) to the landed cost of the product. The difference between the landed cost and the retail sales constituted the gross revenue from sales. The costs of retailing, warehousing, and administra-

tion were deducted to obtain the net excise tax revenue (profit) from alcohol, which was transferred to government general revenues.³

Today, private firms retail, warehouse, and distribute liquor—alcoholic beverages—in Alberta. The Alberta government continues to regulate the industry. Specifically, the Alberta Gaming and Liquor Commission (AGLC) is responsible for issuing liquor licenses and for collecting alcoholic beverage tax revenues. The Commission, through the Investigations Branch, also acts as an enforcement agent of the *Gaming and Liquor Act* and the *Gaming and Liquor Regulation*. The current Minister of Gaming is Ron Stevens.

All spirits, wine, and beer are shipped by manufacturers to privately-operated warehouses approved by the AGLC. The current four licensed warehouse companies include Connect Logistics Services Inc. (CLS), a member of the Tibbett and Britten Group (UK), who own and operate the main warehouse in St. Albert. Brewers Distributor Ltd. warehouses and distributes beer products for Molson and Labatt breweries from Edmonton and Calgary. Big Rock Brewery manufactures and distributes beer from its plant/warehouse in Calgary. And Sleeman Breweries Ltd. warehouses and distributes its products from a warehouse in Calgary. The number of separate identified products (SKUs) is over 17,000, reportedly five times the number prior to 1994. However, a SKU is issued for any variation in a product: for example, the same beer marketed in 355ml cans, 341ml bottles, and 625 ml bottles would count as three SKUs.

Manufacturers or agents set basic cost prices on liquor products called the *C.I.F. invoice price*, which includes freight, agent fees, and insurance. Federal excise taxes and import duties are added to make the *landed cost*. The *wholesale price* to licensees includes the landed cost plus the recycling fee, the container deposit, the GST, and the Alberta markup (flat rate). Wholesale prices and shipping costs (subject to minimum order and

quantity) are the same regardless of the distance of a retail store from the warehouse(s). The retail stores must pay cash at the time of ordering for their inventory and order minimum case lots. Retailers are completely free to set their own *retail prices*, including selling at below the wholesale cost. Beer products dominate accounting for 50% of provincial sales.

As of January 2003, there were 897 private retail liquor stores and 86 general merchandise liquor stores (rural locations), for a total of 983. Additionally, there are approximately 600 general off-sales liquor licensees. The provincial government does not restrict the number of outlets or their location, leaving this up to municipal and local authorities. It does limit hours of opening from 10:00 a.m. to 2:00 a.m. (with an additional half hour for delivery), and restricts opening only one day a year: on Christmas Day, stores must remain closed. The legal drinking age is 18 years of age (reduced from 21 in 1971), and 82% of Albertans (age 18 years and older) have consumed alcohol.⁴ Access to the market was initially banned outright to grocery chain stores, and then allowed only as stand-alone store fronts. Chain stores are an increasing aspect of the current market structure. Many of the current stores are 'mom and pop' operations where employment and wages (net income) are difficult to ascertain. However, the Ministry estimates there are over 4,000 full and part-time jobs in the retail sector⁵ and one estimate puts the 1996 average wage at about \$7.00 per hour.⁶

1.2 Purpose and Methodology

The purpose of this study is to critically assess the liquor retail industry in Alberta after almost ten years of experience since the liquor control policies in Alberta were so substantially altered. The assessment will apply an economics (public finance) approach to review and analyze the current retailing of alcoholic beverages and the im-

plications of this public policy change on the welfare of Albertans. The future directions of change in the industry will also be considered. This analysis will build on the early work of Laxer *et al* and the various versions of Douglas West's study of the industry. The Laxer study,⁷ coming so soon after privatization, was more theoretical and quite prescient in its predictions. The West study⁸ was more descriptive and empirical, coming out after greater experience with privatization. These studies, taken together, provide a good background to the process of change in retailing liquor in Alberta in the early and mid- 1990s.

This study takes a more analytical approach to the current situation in liquor retailing in Alberta. In order to do this thoroughly, it must touch on the theoretical issues surrounding the unique aspects of liquor as a consumer product. These include the concepts of externalities, optimal pricing, price and income elasticity, and industrial (or market) structure: monopoly, oligopoly, perfect competition, and monopolistic competition. Understanding the market structure of the industry as it affects the current evolving private retailing of liquor is vitally important. The change from public ownership of the retailing part of the industry to the private ownership and proliferation of retail outlets in a competitive environment is evaluated. The costs associated with each market structure and the scale (economies) issues will be discussed to give some insight into the current and future organization of the industry. The consumer and social issues affected by policies on tax, price, and availability are considered. However, liquor retailing is not like other product retailing where the economics of the situation may be predominant. There are numerous social issues related to alcohol consumption, and these must be addressed by public policy relating to liquor retailing.

The information used in this report is calculated primarily from Statistics Canada data, and from reports issued by Alberta and other govern-

ments, Health Canada, police services, and the Alberta Alcohol and Drug Abuse Commission (AADAC). A small primary price survey conducted in January 2003 provided price data for 24 Alberta retail stores over ten commonly available alcoholic beverage products. Other price data were obtained from Connect Logistics Liquor wholesale price list and the British Columbia Liquor Stores Product guide. Economic analysis, including optimal price theory and industrial structure theory, supports much of the discussion. Qualitative information was obtained through interviews with various stakeholders and numerous short discussions with liquor store owners and staff. The objective of these interviews was to supplement, strengthen, and deepen the understanding of the industry obtained from the published data and reports.⁹

1.3 Outline

After this introductory section, the report will consider the relative and changing importance of alcoholic beverages in Canadian spending patterns. Data on international, national, provincial, and municipal consumption trends are presented. Section 2 also outlines the public policy issues created by the special characteristics of liquor as a consumer product. The third section reviews some of the social issues relating to alcohol consumption. It presents national, provincial, and local crime-rate statistics in order to consider the effects on crime, including impaired driving, given the greater availability of liquor with the increase in privatization retailing. The conflict between profit incentives and socially responsible marketing is touched on. Section 4 evaluates specific taxation of alcoholic beverages, including the rationale for liquor taxes. The changes in tax assessment, collection, and revenues obtained in Alberta are compared to those in British Columbia where the tax system used is similar to the former ALCB

regime. The fifth section looks at alcohol availability, prices, and other characteristics of delivery affecting consumers and society. Section 6 contains the analysis of the current market structure in the private retailing of alcoholic beverages. Limited cost information, combined with per-

sonal observations and discussions with retailers, is used to assess the consequences of the industrial structure on the liquor retaining industry. Future directions are also considered. The conclusions of the study are enumerated in Section 7.

2 The Importance of Alcoholic Beverages

Approximately three-quarters of Canadians consume alcoholic beverages. Average consumption of alcoholic beverages has been falling in Canada, and Canadians are more moderate drinkers when compared to Americans and Europeans. Alberta has the highest per capita consumption of alcohol in Canada when measured by dollar value of expenditures or absolute alcohol consumed. Calgary rates the highest for major metropolitan areas, while Edmonton is a modest eighth. The consumption of alcoholic beverages is positively correlated with income. When calculated as a percentage of income, Alberta's expenditures on alcohol are closer to the national average and those of its provincial neighbours.

The importance of expenditure on alcohol is also declining when measured as percentage of consumer income. Two-thirds of alcoholic beverages are sold in retail outlets, and approximately one-half of the sales are on beer products. Although consumption expenditures have fallen, it is still important to regulate liquor sales given the nature of alcohol and that estimates suggest ten percent of consumers purchase fifty percent of the products sold.

2.1 Alcohol Consumption Concerns

Health Canada reported in 1995 that about 16.7 million Canadians or 72.3% of women and men aged 15 and over have consumed alcohol in the past 12 months, a drop of 5.4% since 1989. This report also shows the extent to which people are concerned about others' liquor consumption.¹⁰

The proportion of Canadians who drink continues to decline nationally; however,

provincial variations exist. The vast majority of both current and former drinkers (79.2 per cent) feel their own consumption has not harmed them. On the other hand, 73.4 per cent of all Canadians -- drinkers and non-drinkers alike -- say they have been harmed in some way at some point in their lives by others' drinking. In the past 12 months, 10.5 per cent of current drinkers reported at least one harmful effect resulting from their drinking. Physical health problems are reported by 6.2 per cent of current drinkers and of those who are parents, 1.3 per cent perceive their alcohol use as harmful to their children. Approximately one in five current drinkers (20.3 per cent) state that they drove after consuming two or more drinks in the previous hour. In 1989 the percentage was 22.8 per cent.

2.2 International Comparisons

The World Health Organization (WHO) has conducted an impressive international study on per capita alcohol consumption and its social impacts and costs. The report listed 137 countries in order, from heaviest to lightest consuming countries, for 1996, the most recent year for which data were available. The estimates rely on population data from the United Nations (UN). Adult population figures (age 15+) were used to adjust for the differing age structures of national populations. Table 2.1 shows a selection of the countries from the WHO document.¹¹

Ranking countries from the highest to lowest per capita consumption, Canada was ranked

Table 2.1 Per capita consumption of pure alcohol equivalent (litres) in 1996

RANK	COUNTRY	TOTAL	BEER	SPIRITS	WINE
1	Slovenia	15.15	5.76	0.89	8.50
29	United Kingdom	9.41	6.34	1.72	1.94
31	United States of America	8.90	5.36	2.43	1.12
48	Canada	7.52	4.23	2.16	1.19
137	Cambodia	0.34	0.14	0.20	-

Table 2.2 Trends in per capita consumption of pure alcohol equivalent (litres) in 1996

COUNTRY	1970-1972	1994-1996	PERCENT CHANGE
Canada	9.16	7.62	-16.81
United States of America	9.92	8.98	-9.48
United Kingdom	7.35	9.25	+25.85

48th—well below the United States and the United Kingdom. The United Kingdom was lower than all European countries. Table 3 in the WHO document shows the changing consumption patterns over time. It compares total adult per capita consumption of pure alcohol for two periods, 1970-1972 and 1994-1996. Three-year averages were used to minimize the impact of short-term temporal fluctuations in adult alcohol consumption. Data are available for both time periods for the 137 countries, drawing again on World Drink Trends and on the Food and Agricultural Organization (FAO) and UN statistical databases.

The WHO table shows that developing countries and countries in transition were more likely to increase their recorded adult per capita consumption of alcohol than the developed countries. Forty-seven percent of the developing countries or countries in transition showed increased alcohol consumption since 1970, whereas 35% of the developed countries recorded higher consumption of alcohol per adult.¹²

Using data from the WHO document, Table 2.2 compares Canada, the United Kingdom, and the United States. Both Canada and the United States have experienced a considerable decline in per capita consumption, with Canada decreasing almost double the United States percentage, starting from a slightly lower average consumption

level. The United Kingdom increased between these two periods.

This international comparison indicates that consumption of alcoholic beverages in Canada is relatively low for a developed country, has been falling over the 25-year period covered, and is lower than that in United States and the United Kingdom (and Europe).

2.3 Canadian, Provincial, and Municipal Comparisons

Alcohol consumption levels have changed in Canada and also vary considerably across the nation. Comparing provinces, Alberta has the highest per capita consumption of alcohol when measured by dollar value of expenditures or absolute alcohol consumed. Calgary (tied with Toronto) rates the highest for major metropolitan areas, while Edmonton is a modest eighth. The consumption of alcoholic beverages is positively correlated with income. When calculated as a percentage of income, Alberta's expenditures on alcohol are closer to the national average and to those of its provincial neighbours.

Figure 2.1 illustrates the changing levels of sales of alcohol in Canada between 1983 and 2001. Sales fell significantly between 1983 and 1997 for all jurisdictions. The Canadian average

fell from 10.44 to 7.2. Alberta fell from 12.46 to 8.1. The West (and the North) of the country has traditionally consumed more alcohol. However, Alberta and British Columbia have had the greatest decrease in sales, with British Columbia reaching the national average in 2000. After 1997, the national average has started to climb somewhat, to 7.7 in 2001. Alberta never reached the lower national average and also started to increase after 1997, to 8.6 litres per person in 2001.

Another way to look at the importance of alcohol is to consider its place in the individual's or family's budget. The production of the consumer price index (CPI) uses a basket of goods derived from what average Canadians actually spend their income on. The 'basket' includes hundreds of products collected into a number of consumer categories. Each individual product and each consumer category is given a weight determined by the percentage of household income spent on the product(s). The construction of the CPI weights can give us some indication of the financial importance of alcoholic beverages to Canadians.¹³

The main sources of expenditure data on consumer goods and services are the family expendi-

ture surveys conducted periodically by Statistics Canada. Until 1996, these were called the *Family Expenditure Survey*, thereafter they are called the *Survey of Household Spending and the Food Expenditure*. These surveys provide estimations used to derive weights in the CPI basket. Average yearly expenditures per household are calculated for each commodity class by province or sub-provincial area. These are then applied to the estimated number of households in each geographical area, giving aggregate expenditures for each commodity class. Aggregate expenditures for Canada are obtained from estimated aggregate expenditures for each basic commodity group for each geographical unit.

Using the data obtained from the 2000 *Survey of Household Spending and the Food Expenditure*, Figure 2.2 shows the average expenditure on alcohol products by province and the Canadian average. Alberta is tied with Ontario at \$721 and \$722, respectively, compared to a national average of \$677.¹⁴

When cities are compared, Calgary and Toronto are the highest at \$837 spent on alcohol beverages per household; the next highest city is

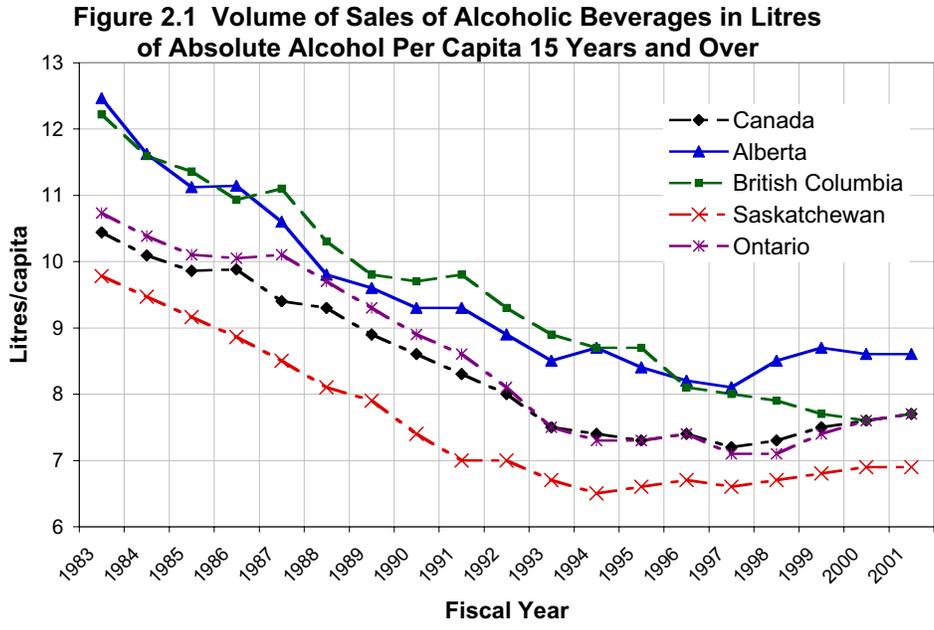


Figure 2.2 Average Expenditure per Household on Alcohol in 2000

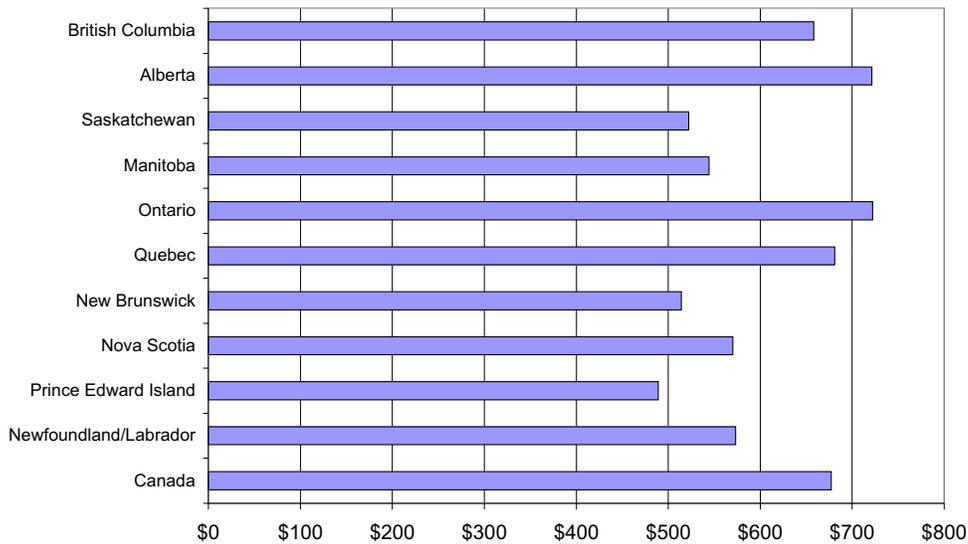
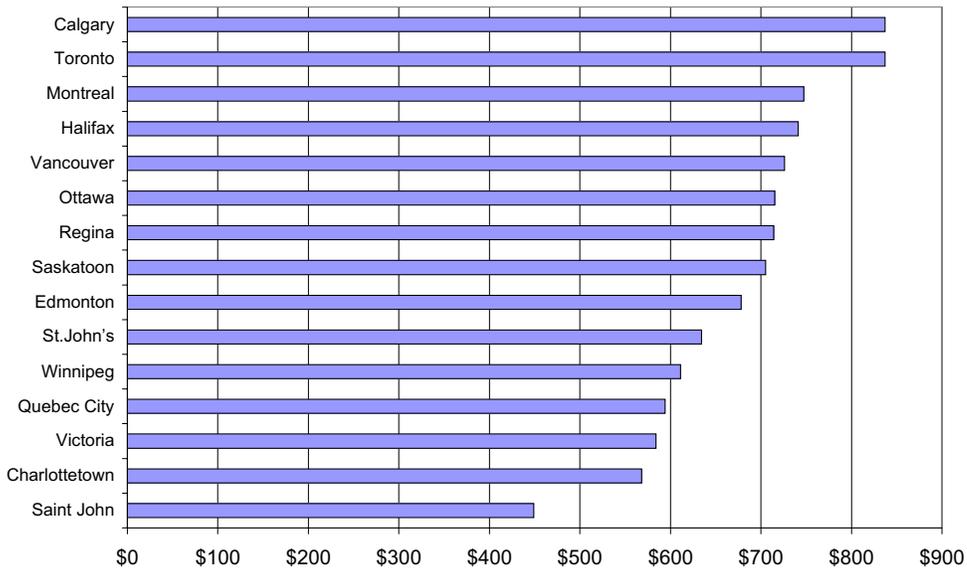


Figure 2.3 Average Expenditure per Household on Alcoholic beverages in 2000 Selected Metropolitan Areas



Montreal at \$747. Edmonton households spent on average a relatively modest \$678.

Alberta and Ontario have the highest consumption among the provinces, as measured by consumer expenditures (Figure 2.2). However, Alberta and Ontario both are relatively rich provinces with high average incomes. Expenditures on alcohol are related to income; the higher the in-

come group the higher the expenditure on alcohol.

Johnson *et al*/have estimated price and income elasticities [see box] for beer, wine, and spirits for each of the provinces of Canada using data over the period 1956-83. The estimates vary markedly across provinces. For Canada (calculated as weighted averages of provincial estimates), all in-

come elasticities were found to be positive: .27 for beer, between 1.02—1.33 for spirits, and between .19—2.62 for wine. The estimated income elasticity of beer is small (inelastic), while the estimated income elasticities for spirits and wine are substantially larger (elastic), especially in the long run.¹⁵ The positive relationship between income and liquor consumption is also demonstrated in Figure 2.4.

As the consumption of alcoholic beverages is positively correlated with income, the difference in incomes in each province should be taken into consideration when comparing provincial alcohol consumption levels. Figure 2.5 shows alcohol expenditures as a percentage of total consumer expenditures. There is far less variance in provincial expenditures when income levels are considered. Although Newfoundland and Quebec stand

Figure 2.4 Average Expenditure on Alcoholic Beverages per Household by Income Quintiles Canada (10 Provinces) 2000

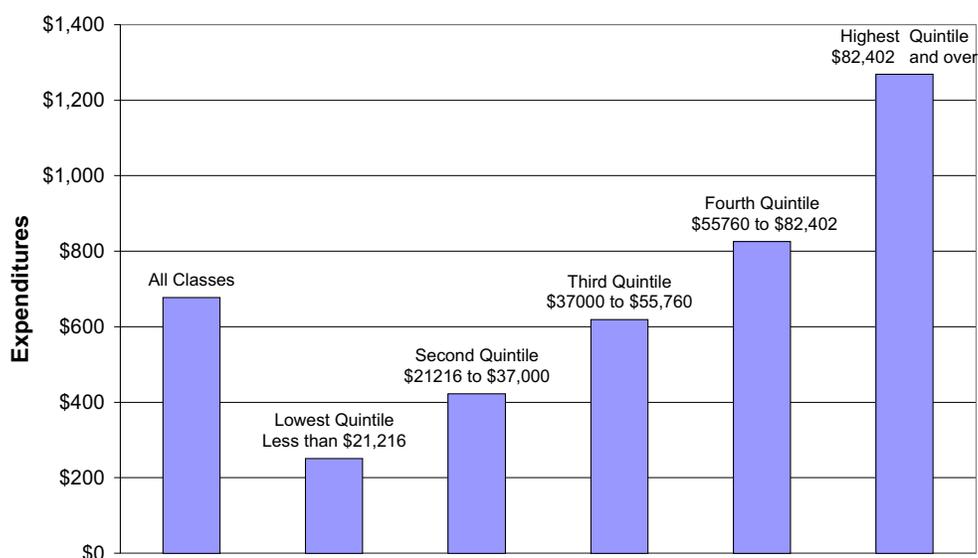
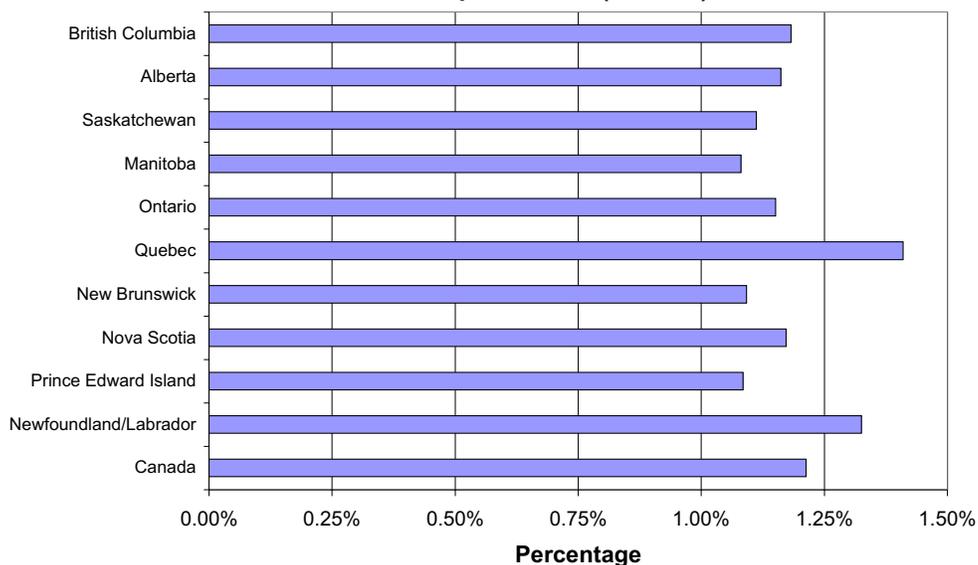


Figure 2.5 Alcohol Expenditures as a Percentage of Total Expenditures (Income)



out, each has lower absolute expenditures on alcoholic beverages than either Alberta or Ontario, but each spends a higher proportion of income on alcoholic beverages. When expenditures on alcoholic beverages are taken as a percentage of total consumer expenditures (or income), Alberta appears similar to the national average and to its neighbour provinces.

Figure 2.5 also brings home the point that consumer expenditures on alcohol are a small percentage of the average household's budget. From a consumer expenditure basis, alcoholic beverages as a category are just 1.21% for Canada and 1.16% for Alberta. The declining importance of expenditure on alcohol by Canadians is also emphasized by the *Survey(s) of Household Spending and the Food Expenditure*. The percentage of consumer expenditure on alcohol in 2000 at 1.72% (Figure 2.4) is 7.5% lower than the 1996 CPI basket weight for all alcohol beverages, which was 1.86% (as listed in Table 2.3).

How important is the retail side of liquor? Table 2.3 shows the breakdown of liquor sales

through liquor stores and those served in licensed premises. The 1996 survey of consumer expenditures shows that the retail store component is about two-thirds of all sales and beer is about one-half of all alcoholic beverages sold in stores.¹⁶ The data on sales shown in the AGL reports indicate the same ratios for Alberta and also that 50% of sales are on beer.¹⁷

2.4 The Rationale for Public Regulation

Public policy issues are created by the special characteristics of liquor as a consumer product. Alcoholic beverages are potentially dangerous goods, particularly in the hands of inexperienced youth, and the misuse of alcohol and its associated problems lend support to those who call for public regulation and control in the marketing of alcoholic beverages. A major responsibility of government is to protect the interest of the general public against the abuse of alcohol and its costs.

There is little doubt that attitudes about the use of alcoholic beverages have changed for the

Elasticity (e) is an extremely useful concept. It is a detailed numerical calculation using data on a product's demand. It measures the response of the quantity bought to either a price change, an income change, or any other variable of interest.

Demand is the general inverse relationship between price and quantity bought/sold. The ratio of the percentage change in the quantity bought when a percentage change in price occurs is called the price elasticity of demand. If the percentage change in quantity exceeds the percentage change in price, the ratio is greater than one, and the good is considered price elastic. When this ratio is less than one, the good is considered price inelastic. High price elasticity (elastic demand) means a small price increase will cause a large reduction in sales of the good. For example if a product's price went up ten percent and the consumers bought one-half the quantity, then $e = 5$. Consumers respond strongly to price. Low price elasticity (inelastic demand) means a large price increase will cause a small reduction in sales of the good. For example, if a product's price doubled and consumers bought only ten percent less then $e = .1$. Consumers are not very responsive to price.

Income elasticity measures the change in quantity bought with changes in consumers' incomes. It is calculated the same as price elasticity, only it is the ratio of percentage change in quantity divided by percentage change in income. For normal goods the ratio it has a positive sign. That is, the quantity increases with income increases. Again, a ratio number greater than one indicates elastic demand—consumers buy more proportionally than the income increase. If the elasticity number is less than one, consumers buy proportionally less than the increase in income. For example, with liquor products all were found to be normal—higher incomes meant greater expenditures on them ($e = +$).

Table 2.3 Percentages of alcohol beverage expenditures in 1996

All Alcohol sales:	Served	Purchased from stores			
		Beer	Wine	Liquor	
1.86	.58	1.28	.60	.30	.31

vast majority of Canadians who are consuming less alcohol. An important question arises in the evaluation of liquor distribution. What is the public purpose? What are the public's objectives in being involved in the sale and distribution of alcoholic beverages at all? When adjusted for income differences, expenditures on alcohol are similar across the nation and on average a small fraction of income is spent on liquor. However, the information on expenditure and consumption patterns in section 2.2 is based on average consumer behaviour. This can be misleading when considering the use or abuse of alcohol. Although liquor sales are relatively insignificant to average Canadians, they are of considerable social importance when 'hard core' consumers are considered. For example, the World Health Organization study on alcohol states:¹⁸

Estimates of per capita consumption of alcohol across the entire population aged 15 years or older can provide policy makers with some sense of the magnitude and trends likely to be found in alcohol related problems. Among those who drink at all, the heaviest drinking 10 per cent typically account for 50 per cent or more of all alcohol consumed. Per capita alcohol consumption trends thus may be a good proxy for problems of chronic heavy drinking such as cirrhosis of the liver, but less so for problems typically more widely distributed such as alcohol-related traffic casualties (Edwards et al., 1994). Adult per capita alcohol consumption estimates can be indicative of the extent of alcohol-related problems.

Many who manage retail liquor outlets support the view that a small proportion of customers account for a large proportion of sales. The potential misuse of alcohol and its associated problems lends support to those who call for public regulation in the marketing of alcoholic beverages.

Controlling the distribution and sale of alcoholic beverages has a long history in Canada coming out of prohibition. The public distaste at the turn of the 20th century with the abuses of alcohol led provincial governments, including Alberta, to implement various systems of prohibition of alcoholic beverage sales and consumption. Governments responded to the public's wishes. After a period of experience, however, prohibition was deemed an unsuccessful experiment, causing more problems than it solved: increased crime, the involvement of organized crime, and all of the distortions that are caused when those willing to break the law can profit greatly by selling a restricted substance. Prohibition ended in 1924 in Alberta. The political compromise between prohibitionists and others was the establishment of provincial liquor boards to take over the control and sale of alcoholic beverages. The sale of alcoholic beverages was gradually expanded in the 1970s and 1980s when the province allowed private firms to sell cold beer and wine and with the establishment of agency stores to give better service to rural areas.

Alcoholic beverages are still considered by many to be potentially dangerous goods, particularly in the hands of inexperienced youth. Numerous social ills are correlated with alcohol overuse or abuse:¹⁹ More recently, the problem and social costs of fetal alcohol syndrome (FAS) have

been appreciated. Costs can run in the millions of dollars in the social services and the criminal justice systems for just one FAS victim, as a paper commissioned by Health Canada reports:²⁰

FAS is expensive and pervasive. It is impossible to measure the exact costs to society of each FAS child. Beyond the health care costs, there are the costs of special education, foster-care, incarceration, financial assistance and social services, and the indirect costs related to maladaptive behaviours, goods and services not produced, and, most important, the loss of human potential. The estimated lifetime costs related to health and education for one person with FAS may exceed \$1.4 million over a lifetime (Streissguth et al, 1996). These costs are staggering considering that FAS is entirely preventable. The costs must be paid by the affected children and families and by the rest of society. For this reason the consequences of alcohol exposure *in utero* are of concern to us all.

A major responsibility of government is to protect the interest of the general public against the abuse of alcohol and its costs imposed by a minority. This is as true today as it was during the call for prohibition. This responsibility for the

sale and distribution of alcoholic beverages has been recognized by governments across Canada. It is still recognized in Alberta today. However, since 1994 the Alberta government has implemented the regulatory function through the law and its enforcement rather than direct control through liquor distribution and sales. Is this approach sufficiently effective, both in compliance and costs, to meet the demands for socially responsible liquor distribution and use? The potential conflict in incentives of this approach is discussed further in Section 3.

The control of alcohol should also fit with other important government objectives. Efficiency, both economic and productive, should also be of concern to governments. The general social conditions, for example, working conditions, citizens' incomes, education, and health are of prime importance. Alcohol distribution and consumption is intimately intertwined with all of these concerns. From the public's point of view, the ultimate question regarding the regulation of liquor is whether the alcohol distribution system minimizes the dysfunctional social consequences that often result from alcohol consumption while bringing in the most tax revenue possible for the government to spend on education, health, and social services in order to offset the effects of abuse of alcohol.

3 Social Issues

There are numerous social issues relating to alcohol. Against the general backdrop of falling crime rates in Canada there is local evidence that crime is associated with alcohol availability and price. Greater ethnographic study needs to be done in order to determine if liquor privatization, and the resulting changes in marketing, are associated with crime rates. Alberta has the second highest impaired driving charge rates in Canada, and Edmonton and Calgary are first and third, respectively, in metropolitan area comparisons.

It is well known and documented that social ills are associated with alcohol use and abuse. The social, health, and economic burdens of excess alcoholic consumption include alcoholism, illness, injury, and loss of life, loss of worker production, property damage, crimes and violence, social discord and family tension, impaired driving and its consequent loss of life, and a host of other problems.²¹ Additionally alcohol harms disproportionately youths, Aboriginal people, inner city residents, and the poor. Babor presents a good summary of the economic and epidemiological literature.²² In 1995-96 (the most recent available), the total federal and provincial tax revenues from liquor were \$3.78 billion, while the social costs were estimated at \$5.25 billion.²³

To the degree that average consumption of alcohol is falling, these social ills will also decrease, all other things constant. Does the increased availability of liquor in Alberta since privatization affect liquor consumption and therefore its aberrant effects? This is a very difficult question to answer analytically. One would need to separate out the effect of the change in liquor distribution (from a public monopoly to a private competitive market) from the background changes going

on due to societal, cultural, and demographic changes with respect to the consumption of alcohol. We want to isolate the small changes due to the liquor distribution system from the larger societal changes happening in the background. The statistics we have are unsatisfactory. What is needed is a theoretical model that would better explain the differing factors causing alcohol abuse and its effects. Mostly we have only correlations. Greater analytic work beyond the scope of this report needs to be pursued on this issue. Nonetheless, some data will be presented below.

3.1 Crime

It is well accepted that much crime is associated with alcohol abuse. For example, as reported in *Juristat*:²⁴

Alcohol, drugs, and other intoxicants are known to play a role in the commission of many crimes including homicide. In 2000, police reported that 33% of homicide victims and 44% of accused persons had consumed alcohol and/or drugs at the time of the offence, consistent with the pattern seen since 1991 when this information was first collected in the Homicide Survey. As victims of homicide, men were 50% more likely than women to have consumed alcohol and/or drugs, and as accused, were 25% more likely than women to have consumed alcohol or drugs.

It might be expected that crime would increase with an increase in private retailing in alcohol beverages, where the awareness and preven-

tion of criminal activity may be less prudent than a publicly-run distribution system. Along with the fall in alcohol consumption (Figure 2.1), the crime rates in Canada have been falling in most categories from the highs of the early 1990s. The following figures illustrate the crime rates in three categories: all crimes, robbery, and break-and-entry. These categories are selected based on the assumption that crime in general may be affected by the general retailing circumstances as well as the robbery rate, if retail liquor stores are more vulnerable, and that private retail liquor outlets may be an additional attractive break-and-enter target.

Police forces do not necessarily keep statistics on the type of retail outlet in their accounting for either robbery or break-and-entry. Some data from the Calgary Police Service (CPS) indicate increased criminal activity in conjunction with the increase in liquor stores under privatization. However, these stores may have initially provided a more convenient and vulnerable target compared to the alternatives. The CPS has worked with liquor merchants in order to improve security and preparedness for criminal activities, to good effect.²⁵

The data used in the following figures are Statistics Canada provincially aggregated data. Figure 3.1 illustrates the crime rates for all offences for Alberta, and includes British Columbia and Canada for comparison.

The evidence illustrated in these figures indicates that British Columbia's total crime rate is higher, by as much as 50%, than the national average but has fallen in the 1990s to 2001 at the same rate of change as the national rate. The Alberta rate rose over the 1980s, peaking in 1991. Then it fell dramatically, becoming equal to the national average in the mid-1990s. It levelled out in the late 1990s again, becoming higher than the national average after 1995.

The robbery rates in British Columbia, Alberta, and the nation in the mid-1970s were much the same. Thereafter, British Columbia rates grew to be considerably greater than the Alberta rate and the national average, while Alberta's rate fell below the nation's rate. Although Alberta's rate was below that of the nation in the mid-1990s, it started to climb after 1995. British Columbia's rate during this period, although high, has fallen at a very fast rate.

Figure 3.1 Crime Rates: All Offences Total

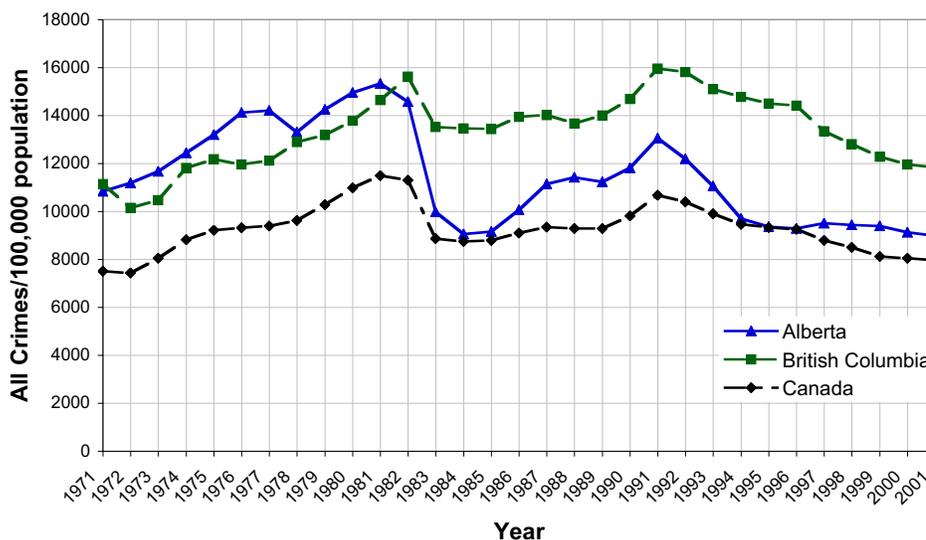


Figure 3.2 Crime Rates: Robbery

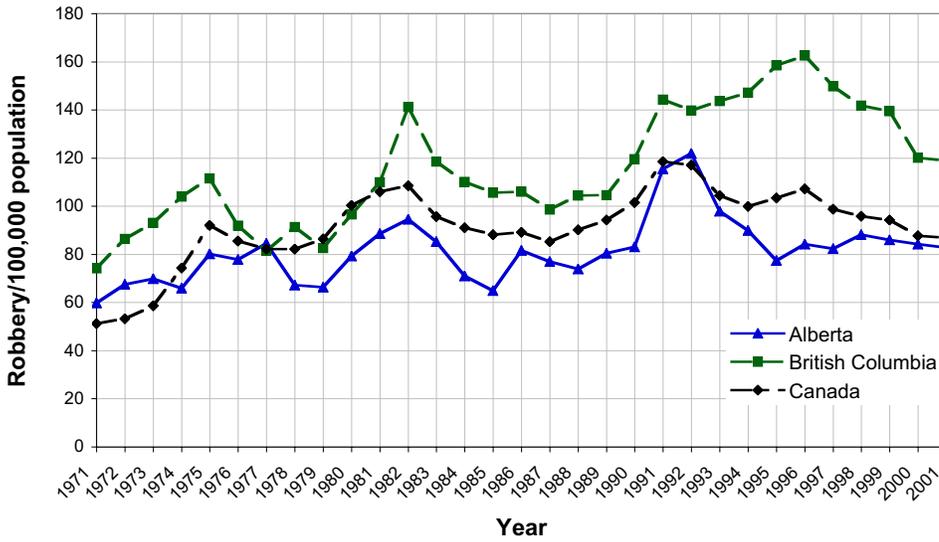
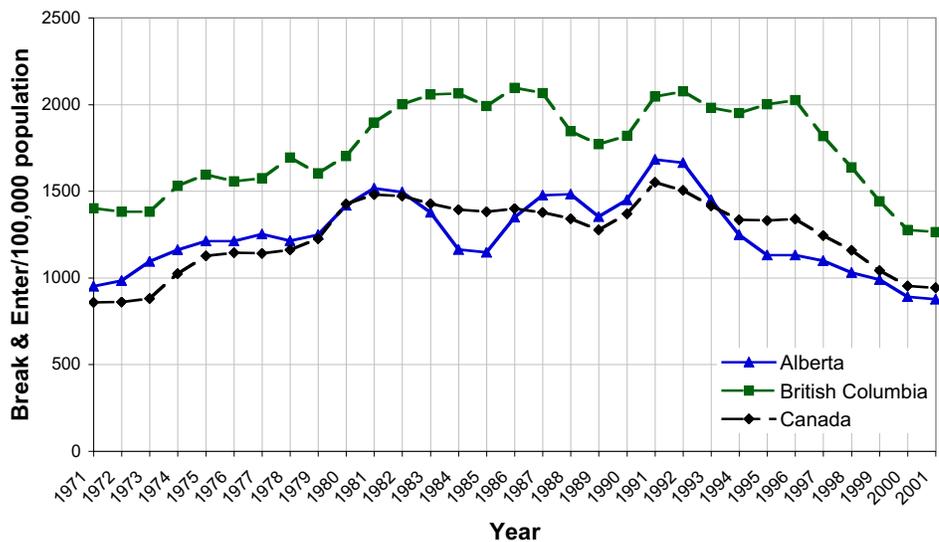


Figure 3.3 Crime Rates: Break-and-Enter



Break-and-enter crime rates are somewhat less volatile. Alberta's rate and the national rate fall steadily from 1991, and the Alberta rate drops below the nation's in 1993. British Columbia's break-and-enter crime rate did not start falling until 1996 and then dropped quickly from 51% to 34% higher than the national average.

There appears on the surface to be little correlation between crime and the policy changes in Alberta to liquor distribution. The all offences rate

fell after a peak in 1991 to a low in 1994, where it has remained pretty much constant. A steady drop in robbery rates was stopped at the time of privatization when it rose and then remained flat. Break-and-enter has been on a continual decline. This may be explained by the initial lack of awareness of new retail entrants, who, after advice by police, better prepared themselves against the possibility of robbery.

However, as one concerned academic notes: “Nor can one hide behind a fog of empirical uncertainties about the connections between liquor, disorder, and crime. In the end, academic statistical exercises are no substitute for live ethnographic realities.”²⁶ More localized data may reveal some interesting results. For example, evidence indicates that liquor act violations or incidents have risen considerably since the privatization of liquor retailing. The following figures illustrate liquor-related incidents in violation of the Alberta *Gaming and Liquor Act* in the city of Edmonton.

The data in Table 3.1 would suggest that, although crime rates have been falling throughout the nation over the 1990s, specific violations of the *Alberta Gaming and Liquor Act*, a provincial statute, have risen dramatically in conjunction with the greater availability of liquor.

3.2 Impaired Driving

Other extremely serious criminal activity occurs in impaired driving. The following quote brings home the immense tragedy of this:²⁷

Drinking-driving collisions are one of the largest sources of alcohol-involved deaths

and injuries. In the 20-year period between 1977 and 1996, the estimated numbers of deaths involving a drinking driver is in excess of 35,000. The problem is particularly tragic among the young, but it is by no means restricted to them. Alcohol is the leading contributor to deaths on our highways, and in recent years it has been detected in about 40% of all drivers killed. The societal impact of injuries is much larger than that of deaths. The number of people seriously and often permanently injured is conservatively estimated to be at least 10 times the number of people killed. Research indicates that the more serious the collision, the more likely it is that alcohol is involved. Impaired driving is one of the largest contributors to the social and economic costs of alcohol abuse in Ontario and Canada. It is clear that there are unacceptable numbers of alcohol-related deaths and injuries on our roads.

Figure 3.4 compares impaired driving charges across the provinces and for Canada. In 1998, Alberta had the second highest rate of impaired driving at 469 per 100,000 population. When this is compared to a national average of 295, Alberta was 59% higher than the national average.

Year	Liquor Act Generally	Consume in Public Place	Conveying in Motor Vehicle	Illegal Possession	Intoxications	Minor-Licensed Premises	Minor-Obtain Liquor	Supply to Minor	Sale and Keep for Sale	Total
1994	1.97	5.42	8.89	0.08	8.27	1.27	1.11	0.08	0.17	27.28
1995	2.15	5.56	11.52	0.03	8.87	1.53	1.27	0.18	1.01	32.11
1996	2.82	6.78	7.27	0.16	11.81	2.63	0.63	0.10	0.67	32.87
1997	2.53	8.99	7.42	0.42	17.49	1.84	1.25	0.00	0.16	40.10
1998	2.41	11.62	6.19	0.03	18.61	2.06	0.99	0.00	0.19	42.10
1999	3.92	12.56	6.20	0.17	19.94	1.65	1.14	0.02	0.26	45.86
2000	5.51	10.63	5.73	0.12	26.05	1.76	0.91	0.02	1.18	51.91
2001	5.61	14.13	6.89	0.17	36.36	2.13	0.83	0.00	0.14	66.25
2002	25.01	0.24	8.95	0.22	38.07	0.96	0.89	0.01	0.21	74.55

Figure 3.4 Rate of Persons Charged with Impaired Driving by Province, 1998

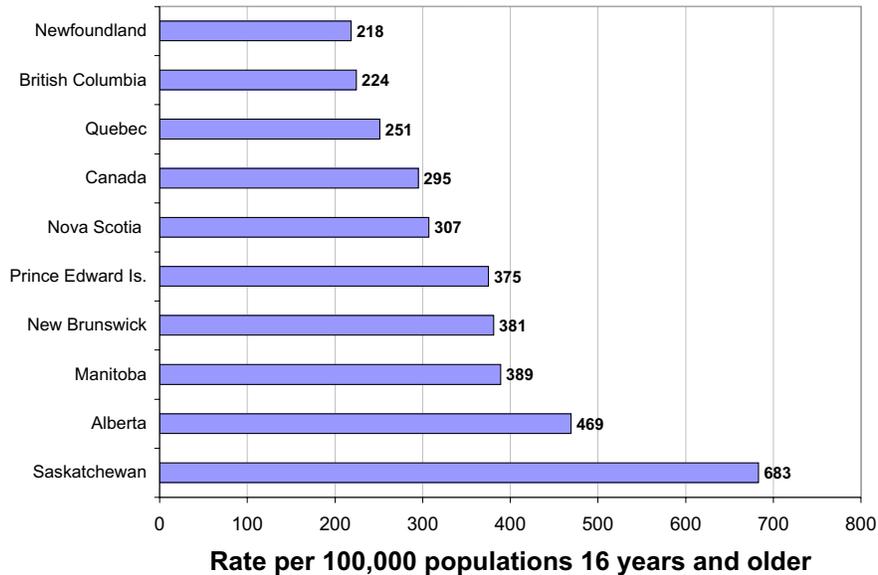


Figure 3.5 Rate of Persons Charged with Impaired Driving by Nine largest Metropolitan Areas, 1998

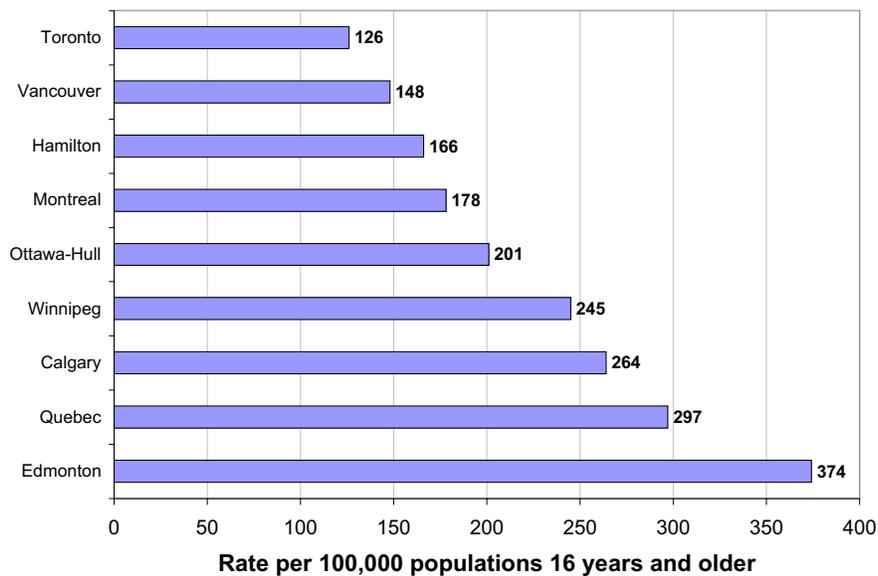
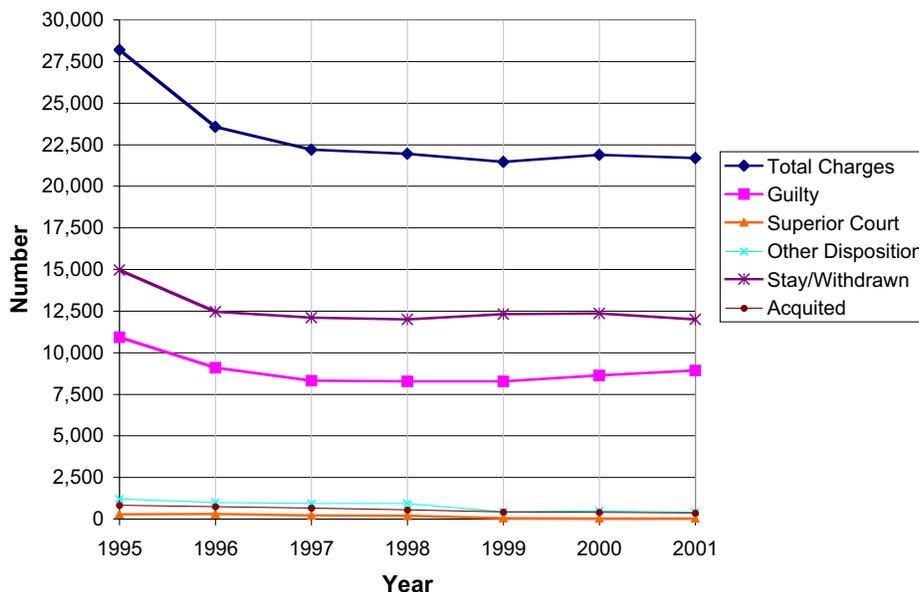


Figure 3.5 compares impaired driving charges in 1998 for the nine largest metropolitan areas in Canada. Edmonton and Calgary came in at first and third, respectively, in comparison with the nine largest metropolitan areas.²⁸

Figure 3.6 illustrates impaired driving statistics over time. Alberta's high rate of impaired driv-

ing has continued over the period these statistics have been compiled since 1995. To the degree that charges indicate the problem, impaired driving is far too prevalent; however, it does not appear to be getting any worse. Conviction and related penalties are clearly not a sufficient deterrent to im-

Figure 3.6 Alberta Impaired Driving Charges



paired driving, and more needs to be done to reduce impaired driving in Alberta.

Impaired driving and the collisions, injuries, and deaths resulting from it can be reduced by public action. Prevention of these injuries and deaths is still an important priority for the general public. As well as other actions, research has demonstrated that factors that influence the consumption of alcohol by individuals and populations will also influence rates of driving after drinking and resulting problems:²⁹

Measures that determine the economic, legal and social availability of alcohol will also influence drinking-driving rates. Thus, for example, alcohol taxes play an important health role in reducing drunk-driving fatalities. In general, any measure that will tend to increase alcohol consumption or make alcohol more accessible will also tend to increase rates of drinking-driving. Conversely, measures that tend to reduce alcohol consumption will tend to decrease rates of drinking-driving.

3.3 Socially Responsible Marketing

The socially responsible marketing of alcohol appears to be less effective with the private retailing of liquor when compared to a public retail system. The efforts to restrict or prevent sales to certain high-risk individuals are incompatible with the profit motive in private marketing. Regulation and enforcement becomes necessary which, at the very least, adds additional public costs. Additionally, there is greater potential for illegal liquor manufacturing or smuggling and sales under a system with a large number of private retailers. Again policing, necessary in order to prevent this activity, incurs increased public costs.

Unlike most market commodities, the adherence to socially responsible marketing of consumer alcohol is an important public concern. Socially responsible marketing means promotion of moderate drinking behaviour, educating the public about the potential risks of alcohol, particularly fetal alcohol syndrome, drinking and driving, and *not* selling to those underage or to intoxicated persons. Socially responsible behaviour is a cost to the retailer in time, store space for promotional

material, and in lost revenue (profit) from not selling. The private retailing of liquor creates an incentive-incompatible situation regarding socially responsible marketing. Although there are many conscientious business people who can appreciate more than the bottom line, the fact is that private stores exist to make a profit. When these retailers are running meagre margins, working long hours, and are open late at night (early morning), the potential damage of alcohol abuse is increased.

A particularly important concern to the public is liquor sales to minors. The minimum age for purchasing liquor in Alberta is 18. The change to private retail stores has changed the incentives to control this age-limitation. Understanding this conflict of incentives, AGLC requires private retailers to ask for identification if a patron appears to be under 25. Failure to do so is a punishable offence if this identification is not performed when appropriate. The government has to use crime and punishment techniques to overcome and change the private incentives. This problem was brought to the forefront when a television station had under-age persons successfully procure alcoholic beverages at a number of liquor stores.³⁰ Subsequently, the AGLC raised the fines for selling to a minor and for not requesting ID from those appearing to be under 25.

The effectiveness of this approach is in doubt. Compliance depends on the probability of loss to the offender. This loss, in turn, not only depends on the levels of fines but it also depends on the enforcement effort. Making this approach to regulation work, at the very least, adds additional costs on the administrative and regulatory regime, over and above that of a publicly-run system where the incentives for enforcement are compatible with the public control on sales. Under publicly-owned liquor retailing sales, staff can be trained in how to handle and prevent under-age purchases, including procurement for a minor by an adult. The incentive structure is appropriate in

this situation as the government employee has no self-interest in selling to a minor or an intoxicated person.

Are private liquor retailers helping educate the public about the potential risks of alcohol use? Liquor retailers in Alberta in 1999 were asked to play a vital role in a campaign aimed at combating FAS. The Alberta Liquor Store Association, a private voluntary organization, sent individual stores pamphlets, decals, and posters warning pregnant women of the severe danger posed to their unborn children by drinking alcohol. The association president recognized the incentive incompatibilities of this program:³¹

Greg Krischke, president of the association, says the government wanted the help of liquor retailers in raising awareness of FAS. Krischke says the association agreed it could play an important role in that. As responsible retailers and as an industry that is concerned about responsible consumption, we feel that it's important to assist in getting this message out to the public.

Krischke indicated he had not yet received any feedback from individual liquor retailers as to how supportive of the FAS campaign they will be, but that generally they accept initiatives supported by the association. He admits that some retailers may be reluctant to participate in a program that could result in reduced sales, but says most liquor store owners see themselves as part of the community and want to see responsible consumption.

The program does not appear to be working. No literature relating to FAS, or for that matter anything that could be construed as fulfilling socially responsible objectives, was observed by the author and others in the many private stores visited during this study.

Contrast this approach with the public liquor retailing organization in British Columbia, the BCLDB:³²

The LDB continued to actively educate its staff and customers about the risks of drinking alcohol when pregnant. In addition to a yearly in-store campaign targeted at Fetal Alcohol Syndrome (FAS) awareness, the LDB distributed brochures and posters containing valuable information about alcohol and pregnancy that were previously developed in consultation with the B.C. FAS Society and endorsed by British Columbia doctors, nurses and midwives. These materials have been made readily available to customers, as well as to health care and community workers across the province and across the country. In 2001, the LDB distributed more than 5,000 FAS brochures and 400 posters.

There is another concern with the current regulation and private retailing of liquor system in Alberta: smuggling and illegal manufacturing. For example, beginning in 1994, Highwood Distilleries, with the help of two other companies

and a former Canada Customs officer, obtained a license to export liquor to the United States when, in fact, it was destined for the black market in Canada. "Convictions followed a 1995 RCMP sting involving two truckloads of whisky, rum, and vodka. Prosecutors showed that liquor destined for export was sold in Canada on the black market. The product either never left the country or was smuggled back. By avoiding excise duty and sales taxes, the alcohol would sell for about half the normal retail price." ³³

The extent of this problem is not as well documented in Alberta as it is in other jurisdictions.³⁴ Can the AGLC reasonably police this potential problem when Alberta has a fragmented distribution system with over 900 private retailers and another 500-600 off-sales licensees? The vast majority of retailers are honest business people. However, it is easier for alcohol smugglers and illegal manufacturers to sell to unscrupulous owners of private stores than it would ever be to a publicly-run retail network. The larger the number of independent stores there are, the more difficult and costly is the effort to inspect, audit, and police this system.

4 Alcohol Taxes

Taxes on alcohol are imposed by both federal and provincial governments. There are several arguments to justify this type of excise tax. Liquor consumption generates social costs, liquor is a luxury product, it has an inelastic demand, its consumption is complementary to leisure, and it brings in revenue. A tax on liquor does two main things. It increases the price of alcoholic beverages, reducing consumption, as well as any associated social ills. It brings in revenue to governments, and the tax revenue obtained can (potentially) be used to help correct or compensate for negative social effects. Alberta government revenue from the sale of alcohol has fallen since the introduction of the unit tax (1993). The rates were decreased as the private marketing of alcohol led to price increases—increases which have been moderated because the share taken as government revenue has fallen.

The taxation of alcohol and tobacco products is one of the oldest forms of taxation in the world. In the review of the *Excise Tax Act*, it was found that: “All the countries surveyed continue to impose specific taxation on alcohol and tobacco products at the level of the manufacturer, either at some point during the production process or on the first sale of the goods for wholesale distribution. This structure continues even in countries with a greater reliance on a comprehensive value-added taxation structure.”³⁵

Excise taxes (or duties) are taxes levied on specific products, such as alcoholic beverages, tobacco products, motive fuels (i.e., gasoline), and gaming. For one thing, consumer goods like tobacco and alcohol are addictive and therefore they can be made to yield large revenues. But because they are consumed widely by low-income groups,

their taxation might also be considered inequitable. The equity case against such taxation has been countered in the past with the argument that, because they are addictive, discouraging their use by taxing them is justifiable on moral grounds.”³⁶ Today, moral arguments are generally less emphasized, while health risks are more prominent; however, there is still acceptance for these taxes.

4.1 Why Tax Alcoholic Beverages?

There are a number of arguments that can be made to justify taxes on liquor. Higher prices restrict consumption of alcohol, depending on the price elasticity of demand [see box]. As there are social costs associated with the consumption of alcoholic beverages, the lower quantity consumed under taxation is appropriate and desired. From this perspective, taxes on alcoholic beverages can be considered a corrective Pigouvian tax.³⁷ When the social costs are added to the private costs, the desired output and price (i.e., a high price and low quantity) can be achieved with the tax. This concept will be expanded upon in Section 5 when optimal prices are considered. However, it may be difficult to estimate the social costs, or for that matter the social benefits, making the application of the appropriate tax complicated.³⁸ Estimates that have been conducted indicate that the tax revenue is far short of the social costs incurred. Tax revenue can (although not necessarily) be used to correct or compensate for these social costs. For example, this tax revenue can help finance health care in order to compensate for the ill-health effects of some alcoholic beverage use.

A second argument for a liquor tax is that alcoholic beverages are 'luxuries,' products not considered essential to living a full life, therefore alcohol taxes can be thought of as a luxury tax on the more affluent in society. Of course, people across the income spectrum purchase alcoholic beverages, therefore this argument may be spurious. However, it is an argument for higher rates of tax (*ad valorem*) on pricier wines, spirits, and liquors.

A more esoteric efficiency case can be made for taxing liquor at higher rates than other consumer goods due to the price inelasticity of demand for these goods. The Ramsey rule indicates that goods with a low price elasticity of demand (inelastic) be taxed at a higher rate for overall commodity tax efficiency.³⁹ A further refinement of this rule, the Corlett-Hague rule, indicates efficient commodity taxation also requires taxing at a higher rate commodities that are complementary to leisure.⁴⁰ Certainly the inelastic price elasticity of demand for alcoholic beverages guarantees the actual generation of revenues.

Governments tax alcohol because it brings in revenue and they are historically accustomed to taxing alcohol products. Moreover consumers are accustomed to paying these taxes, and there seems to be general public acceptance of this form of revenue generation for government functions. Tax efficiency arguments, however, do support taxing liquor. There may be a policy tradeoff, though. Because the demand for alcoholic beverages is price inelastic, it takes a proportionally larger price increase in order to curtail consumption. This situation, however, brings in proportionally greater revenues per tax value than would occur with other, more price-responsive, products.

4.2 Unit Tax versus *Ad Valorem* Tax

Excise taxes can be either unit taxes or *ad valorem* taxes. A unit tax is a certain charge on the prod-

uct per unit sold; for alcohol this charge is usually per litre. An *ad valorem* tax is a percentage charge on the value of the product, for example, a 10% tax on the product's price. With an *ad valorem* tax, the tax per product gets larger the higher its price. Both of these types of charges are used as excise taxes in Canada.

An *ad valorem* tax causes a shift in the supply price by a constant percentage and has the advantage that it automatically rises with inflation. This type of tax also has a progressive tax effect if, as in the case for alcohol beverages, the income elasticity of demand is positive and the price elasticity is low. What this means is that higher income earners buy higher quality/priced alcoholic products and, with an *ad valorem* tax, they will pay a higher tax rate.

A unit tax causes the supply to shift by a constant amount. For this reason a unit tax has also been referred to as a flat tax. The advantage of a unit tax is that the amount of tax is not affected by the price of the product. A unit tax does not change with price fluctuations, an advantage where prices are volatile. A unit tax on alcoholic beverages will favour expensive products over cheap ones because the tax will comprise a smaller percentage of the purchase price of the expensive product. Tax incidence—who pays the tax—is also affected. If the expensive product has lower price elasticity of demand, the retailer can charge a higher markup while paying a smaller percentage in tax.

4.3 Federal Tax System

Historically, commodity taxes on specific goods have been an important element of the federal tax system, accounting for as much as 25% of federal revenues in the first half of this century. While their relative importance has declined over recent years, these levies continue to represent a valuable source of revenue to the federal govern-

ment. Among the most significant federal excise levies are the charges imposed on alcohol and tobacco products, which contributed approximately \$3.1 billion in fiscal year 1995-96. Of this total, \$1.94 billion was attributable to tobacco, \$560 million to beer, \$480 million to spirits, and \$110 million to wine.⁴¹

Federal excise taxes are administered through a number of Acts. The *Excise Act* imposes excise duties at various unit rates on domestically produced spirits, beer, and tobacco products. The overall philosophy behind the *Excise Act* is one of rigorous control and strict adherence to a set of prescribed rules to ensure that revenue to the federal government is maximized. The *Excise Tax Act* imposes excise taxes on both imported and domestic goods at a unit rate for wine and tobacco products and at an *ad valorem* rate for cigars. The *Customs Tariff* imposes customs duties, equivalent to the excise duties that are applicable to domestically produced goods, on imported spirits, beer, and tobacco products. In addition, the *Importation of Intoxicating Liquors Act* applies to bulk beer brought into a province by an excise licensee.

The *Excise Act* imposes a tax on spirits at the following rates: \$11.066 for every litre of absolute ethyl alcohol distilled in Canada; \$0.2459 per litre on mixed beverages produced in a distillery that contain not more than 7% absolute ethyl alcohol by volume; and 12 cents per litre on imported spirits, in addition to any of the duties otherwise imposed on every litre of absolute ethyl alcohol.⁴² The *Excise Act* also imposes a tax on beer: \$27.985 per hecto-litre on all beer or malt liquor containing more than 2.5% absolute ethyl alcohol by volume; \$13.99 per hecto-litre on all beer or malt liquor containing more than 1.2% absolute ethyl alcohol by volume but not more than 2.5% absolute ethyl alcohol by volume; and \$2.591 per hecto-litre on all beer or malt liquor containing not more than 1.2% absolute ethyl alcohol by volume.

The *Excise Tax Act* imposes the following excise taxes on wine: \$0.0205 per litre on wines of all kinds containing not more than 1.2% of absolute ethyl alcohol by volume; \$0.2459 per litre on wines of all kinds containing more than 1.2% of absolute ethyl alcohol by volume but not more than 7% of absolute ethyl alcohol by volume; and \$0.5122 per litre on wines of all kinds containing more than 7% of absolute ethyl alcohol by volume.⁴³

Although federal excise taxes on alcohol generate significant income (\$1,150 million in 1996), the predominant taxing authority on alcohol resides at the provincial level. Federal excise taxes, as well as the GST paid on alcohol products, become part of the cost base to the provinces. The provinces (except Alberta) mark up alcoholic beverage retail prices significantly in order to generate 'profits'—more appropriately called excise tax revenues. When Alberta privatized, it set the mark-up on the wholesale price.

4.4 Provincial Tax Revenues

Prior to prohibition, the revenue from excise taxes on alcohol sales was a main source of government finance. This was before the introduction of the personal and business income tax. Today, the revenue is of much less importance to provincial finance, but is still significant. For example, in 1948 alcohol tax revenue accounted on average for 17% of provincial revenues. But by 1970 it had fallen to 5% and by 1981 to just 2.5%, where it has more or less remained.⁴⁴

In Canada, alcohol administration and sales have been provincial monopolies, and governments therefore determined taxes implicitly by setting retail prices. In most cases, an *ad valorem* tax is administered by setting a retail price based on a percentage mark-up over cost. Under government control of retail sales, the separation of wholesale and retail prices is not an issue. Note in

Table 4.1 that, with Alberta's pre-1993 *ad valorem* taxes, the percentage tax increased with the alcohol content of the product. With the introduction of private alcoholic beverage retailing, Alberta changed to a unit (flat) tax regime on alcoholic beverages. With the separation of wholesale and retail prices in a privatized distribution system, the continued application of an *ad valorem* tax would have caused greater administrative problems with constant fluctuations in wholesale prices. The tax rates for Alberta under this unit tax regime are shown in Table 4.1

The initial unit tax system was introduced in November 1993 as ALCB sold off stores to the private sector. As the private retail market developed, prices started to rise and the Alberta government reduced the flat tax rates in August 1994, phasing the reductions in through a surcharge starting at 10% and falling by 1% every four weeks over the year.

Table 4.2 repeats the data in Table 4.1, converting it to percentage change. This table shows the percentage decrease in excise tax rates up until 2002. It is important to remember that the figures in Table 4.1 are in current dollar figures. There was also some inflation. The tax rates were reduced in absolute terms and simultaneously inflation eroded the relative tax rates. The first increase in rates since privatization was made effective on April 5, 2002. However, the tax on small-scale breweries products was again reduced.

It is worthwhile to compare Alberta's tax revenue under the new unit tax regime to that of British Columbia where liquor control is still similar to what Alberta's was prior to privatization. Alberta and British Columbia both had an *ad valorem* alcoholic beverage tax system prior to 1993 before the Alberta government shifted to a flat tax method simultaneously with the introduction of privatization of the retailing of alcoholic

	Effective Date:	Pre 1993	Nov 1993	Aug 1994*	May 1995	Sept 1997	Dec 2000	Apr 2002	Mar 2003
Product	Alcohol Content	Percent	\$ Per Litre						
Spirits ^a	> 60%								\$17.87
Spirits	> or equal to 22.1%	149%	\$14.95	\$12.95	\$12.50			\$13.30	
Spirits	< or equal to 22%	159%	\$14.95	\$12.95	\$9.50			\$9.90	
Ready to Drink and Cocktails ^b					\$3.05			\$4.05	\$4.05
Wine	> or equal to 16.1%	177%	\$6.20	\$5.50	\$5.50			\$6.10	
Wine	< or equal to 16%	120%	\$4.35	\$3.30	\$3.05			\$3.45	
Coolers/Ciders ^c		91%	\$2.10	\$1.50	\$1.25			\$1.35	\$1.35
Beer		73%	\$1.06	\$0.92	\$0.89	\$0.88			
Manufacturer produces worldwide annually (hectolitres)									
First 50,000							\$0.50		
Next 20,000							\$0.60		
Next 30,000							\$0.75		
Over 100,000							\$0.88		
> 200,000 ^d								\$0.98	
< 200,000								\$0.40	
< 10,000 ^e									\$.20

*in addition to these rates there was a plus 10% surcharge diminished by 1% per every 4 weeks Sources: *A new Era in Liquor Administration*, ALCB, Dec. 1994. ALCB and AGLC Annual Reports. *Review of Liquor Mark-up Structure and Related Findings and Recommendations*, AGLC, Feb. 20, 2003.
 New as of March 21, 2003:
^aSpirits with alcohol content greater than 60%. The second tier becomes > 22% and < 60%.
^bThis category becomes refreshment beverage > 8% and < 16%.
^cThis category becomes refreshment beverage > 1% and < 8%.
^dApplies to more than 92% of the volume of beer sold.
^eNew category to lower the rate on small scale craft beer production.

	Effective Date:	Nov 1993	Aug 1994	May 1995	Sept 1997	Dec 2000	Apr 2002	Mar 2003
Product	Alcohol Content							
Spirits	> 60%							+34%
Spirits	> or equal to 22.1%		-13.38%	-3.47%			+6.40%	
Spirits	< or equal to 22%		-13.38%	-26.64%			+4.21%	
Ready to Drink and Cocktails							+32.79%	
Wine	> or equal to 16.1%		-11.29%	0			+10.91%	
Wine	< or equal to 16%		-24.14%	-7.58%			+13.11%	
Coolers/Ciders			-28.57%	-16.67%			+8.00%	
Beer			-13.21%	-3.26%	-1.12%			
Manufacturer produces worldwide annually (hectolitres)								
First 50,000						-43.18%	-20.00%	
Next 20,000						-31.82%	-33.33%	
Next 30,000						-14.77%	-46.67%	
Over 100,000						0		
> 200,000							-20.0%– 46.67%	
< 200,000							+11.36%	
< 10,000								-50%

beverages in Alberta. Figure 4.1 illustrates alcohol excise tax revenues as the percentage of total provincial revenues. At 3.02%, Alberta tax revenue in 1990 was a somewhat higher percentage than the national average (2.5%), while British Columbia at 2.66% was closer to the national figure.

In Alberta, liquor tax revenues declined to 2.18% by 2002, while British Columbia revenues, although also falling somewhat, have experienced greater stability, remaining close to the Canadian average of 2.5%.

Figure 4.2 shows the same alcohol tax revenues in a different way. In this figure, revenues are measured in constant dollars (1992) per capita. In the early 1990s, prior to privatization, Alberta obtained considerably higher per capita revenue from liquor sales compared to British Columbia. After privatization, the alcohol tax revenue in Alberta began to decline and has become less than British Columbia's after 1997.

A third perspective to consider excise tax revenue on alcohol is to look at the revenue obtained (in current dollars) per unit of absolute alcohol

equivalent sold in each province. Absolute alcohol converts the actual products sold into pure alcohol equivalent. For example, a 750-millilitre bottle of spirits with 40% alcohol by volume would constitute $.40 \times .750 = .3$ litre of absolute alcohol equivalent. Figure 4.3 shows the revenue in current dollars realized on each litre of absolute alcohol sold. This figure shows how Alberta's revenue has changed from being greater prior to 1997 to less than that realized in British Columbia after 1997. Consumption in Alberta has risen to 8.6 litres in 2001, while consumption in British Columbia has fallen to 7.7 (Figure 2.1), yet the dollar revenue per litre absolute alcohol has been maintained and increased in British Columbia while it has fallen in Alberta.

Laxer *et al* asked in 1994: "Will it [the flat tax regime] be as or more efficient than the previous public system was in producing revenue for the provincial government during its current program to balance the budget? In short, will privatization contribute to a more fiscally responsible Alberta?" The answer to this question is clearly *NO*. The revenue-neutral policy of the Alberta

Figure 4.1 Liquor Revenue as a Percentage of Total Provincial Government Revenue

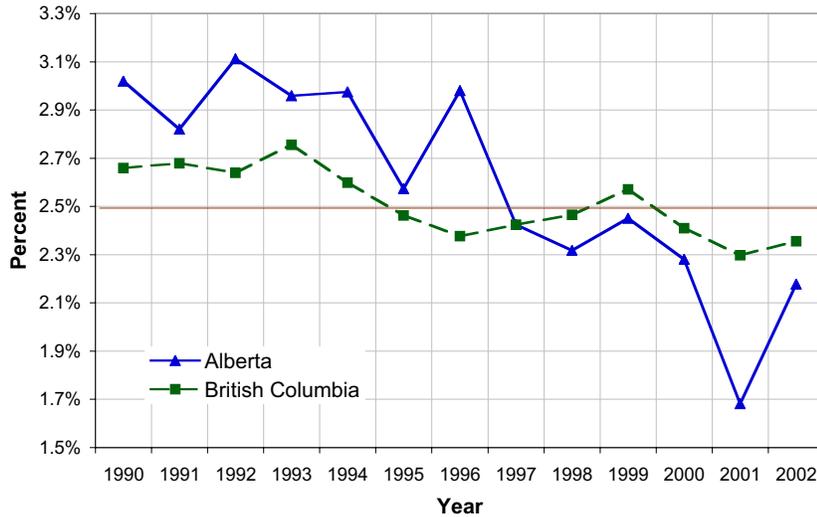
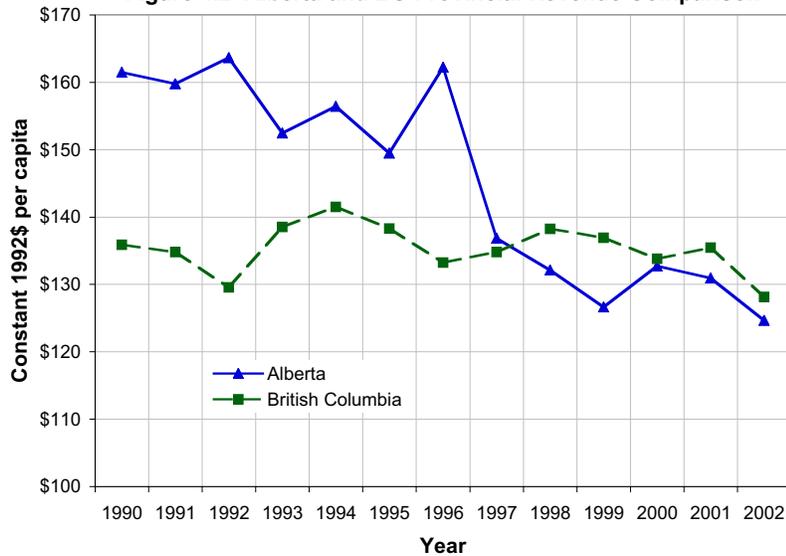


Figure 4.2 Alberta and BC Provincial Revenue Comparison



government was 'successful,' liquor revenue was constant in absolute current dollars over the period. However, with inflation, growth in population, and growth in sales, a constant level of revenue is really a loss. Measured appropriately, the current unit (flat) tax system in Alberta has resulted in lost revenue to the province from alcohol beverages.

How much revenue might have been lost? This is a 'what if' question that depends on the assumptions used. Table 4.3 shows the actual gov-

ernment revenue obtained from the sale of alcoholic beverages in Alberta (column B), and the per capita amount (column C), both in current dollars. These amounts have not varied much even though there has been inflation and population increases. The table then shows the per capita revenue, if the tax revenue increased at the same rate as inflation (column D). Column E shows the revenue that would have been obtained with the population increases. Finally, column F shows the difference between the actual revenue obtained

Figure 4.3 Tax Revenue, Absolute Alcohol Sales

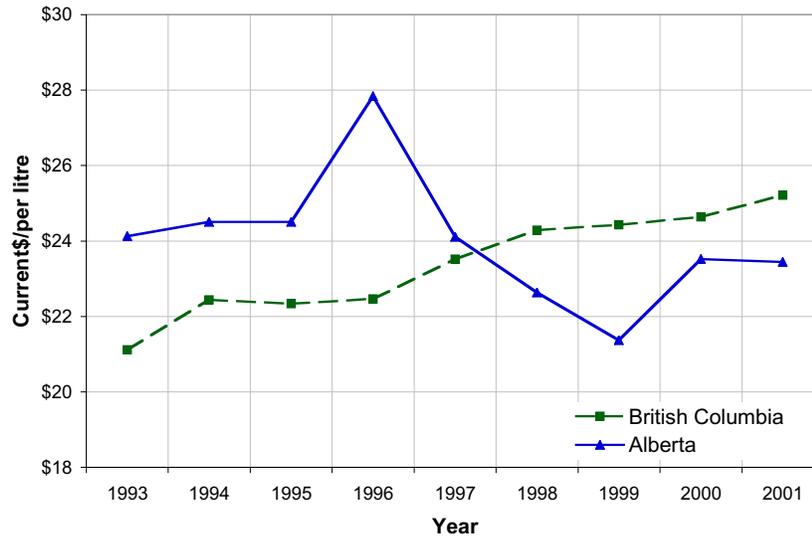


Table 4.3 Liquor Revenue if 1992 revenue per capita were maintained

A	B	C	D	E	F
Year	Actual		Potential		Difference
	\$millions	current/capita	per capita	\$millions	\$millions
1992	431	\$163.61	\$163.61	431	
1993	412	\$154.27	\$156.12	417	5
1994	434	\$160.45	\$164.62	445	11
1995	430	\$156.94	\$164.79	452	22
1996	484	\$174.06	\$186.77	519	35
1997	425	\$149.80	\$164.03	465	40
1998	425	\$146.21	\$161.85	470	45
1999	425	\$143.60	\$162.84	482	57
2000	469	\$155.82	\$182.93	551	82
2001	481	\$157.24	\$188.84	578	97
2002	482	\$154.81	\$192.27	599	117
			Sum of lost revenue:		511

and what would have been obtained if the tax rates had been maintained (in constant dollars). These figures assume the same tax regime as in 1992 in place throughout, that the inflation rate for liquor was the same as 'all items', and that the liquor consumption per capita remained the same. In fact, the price increases were higher for alcohol products and per capita consumption has increased; however, these are likely the result of the changes in the industry. The answer, given these assumptions: The aggregated lost revenue between 1993 and 2002 exceeds \$500 million dollars.

Section 5 will review the experience of liquor prices in Alberta. If the new (1993/94) unit tax system had maintained *relative* tax revenue, wholesale prices would be considerably higher today than they are. These lower taxes have dampened the upward pressures on wholesale price, offsetting to a degree the rising retail prices. As shall be shown in the next section, however, consumers have been made no better off in terms of prices, while at the same time the government has lost revenue.

5 Liquor Prices

Liquor prices in Alberta track the Canadian average closely, but spike with privatization in 1993, and then level out as tax rates decreased. When liquor prices are compared with 'all other goods' in Alberta, it appears that the unit tax system has dampened the changes in liquor prices, until they take off in 2001. Over the period of privatization, liquor prices have been more volatile in Alberta than in the rest of Canada. And, over the last decade, liquor prices have increased more in Alberta than in British Columbia. Current retail prices are similar in the two provinces, on average, but show considerable variability between stores in Alberta. If the unit tax system had maintained relative tax revenue, wholesale costs would be considerably higher in Alberta today than they are. These lower taxes have dampened the upward pressures on wholesale price, limiting retail price increases. The interesting thing about liquor is that a low price is not (or should not be) an objective in the responsible control of alcohol consumption. Public welfare is higher when price is high, consumption is low, and revenues obtained compensate for the social costs.

The government implemented the privatization of the retailing arm of the ALCB using the argument that competition would bring down prices while the government obtained the same revenue through the 'provincial mark-up,' (excise taxes) on alcohol.

It is true that in general the lower the price for any consumer product, the better off individuals and families will be, all other things constant. However, an objective of low prices for alcoholic beverages is not obviously a good thing. Because of the relationship between alcohol consumption and numerous social ills (and their costs), the pricing

of alcoholic beverages is more complex. Low prices for alcoholic beverages may reduce the public welfare through higher, if implicit, social costs.

5.1 Alcohol Price Elasticity

People buy more of any good the lower the price, all other things constant. This is also true for alcoholic beverages. However, the quantities of alcoholic beverages bought are relatively unresponsive to price changes, i.e., they are price-inelastic.

Johnson *et al* estimated short-run price elasticities for beer, wine, and spirits to be .3, .9, and .5, respectively.⁴⁵ This means that increases in price will reduce the consumption of all beverages in the short run. Another way to put this is: a 1% increase in the price will reduce beer consumption by .3%, wine by .9%, and spirits by .5%. For example, if an additional 10% tax was imposed on a \$10 bottle of wine, the quantity sold (at \$11) would decrease by 9%. They also found similar long-run elasticities for beer and wine, but found that spirits have very little long-run price-sensitivity.

These elasticities indicate that imposing taxes on alcoholic beverages is effective in generating revenue, and this is particularly true for spirits. It also means that raising prices on beer and wine is an effective method in curtailing consumption, although for spirits, price increases would have to be considerable in order to reduce consumption.

5.2 External Social Costs

As discussed above in Section 3, alcohol consumption generates social costs, referred to in econom-

ics literature as negative externalities or external costs. The concept of elasticity has also been applied to the relationship between changes in liquor prices and changes in the social ills associated with liquor use. Various studies have shown the specific price elasticities of demand and the correlation with reduced alcohol-related problems.⁴⁶ Studies in many different countries also show a well established link between the price elasticity of demand for alcohol and violence. These studies show the effects of liquor prices on violence. For example, one international study shows a 1% increase in price decreased instances of robbery .19%, assault .25%, and sexual assault .16%.⁴⁷

Similar to Health Canada's estimates of social costs in Canada cited previously (Section 3), the Alberta Alcohol and Drug Abuse Commission (AADAC) estimated the social costs of alcohol consumption in Alberta at \$749 million in 1992 (the most recent study). This study enumerates an extensive list of the causes of social costs:⁴⁸

Health Care: general and psychiatric hospital treatment; ambulance services; residential, non-hospital, and ambulatory care including physician fees and other professional services; prescription drugs; other costs such as special rehabilitation equipment. Law enforcement: police; courts; corrections; probation; customs and excise. Other: damage resulting from fires and traffic accidents. Substance Abuse Prevention, Research and Training Administration for Transfer Payments: social welfare; worker's compensation; health and life insurance; pensions; sick leave. Workplace: Employee Assistance Programs; other health promotion programs; drug testing. Substance abuse also exacts a considerable toll in terms of morbidity and mortality. In 1992, the use of alcohol, tobacco, and illicit drugs resulted in 3,092 deaths (21% of total

mortality for the province), 249,052 patient days in Alberta hospitals, and an estimated 59,785 potential years of life lost. Tobacco accounted for more than half of all deaths (2,344), hospital days (171,228), and potential years of life lost (35,531). Alcohol abuse resulted in 666 deaths, 80,976 patient days in hospital, and 20,765 potential years of life lost, and illicit drug use accounted for 82 deaths, 6,848 hospital days, and 3,439 potential years of life lost.

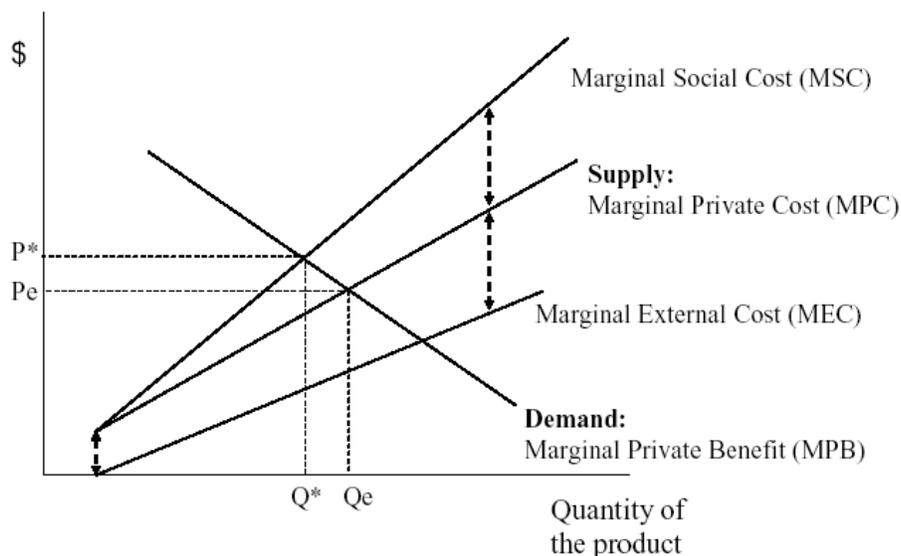
For these reasons, low prices for alcoholic beverages have not usually been a policy objective of governments. Pricing of alcohol is a major policy instrument in the control of liquor use. High retail prices serve two purposes: first, high prices reduce use, and second, the considerable tax revenue obtained (the difference between retail prices and wholesale costs) compensate for some of the damages caused by alcohol consumption.

It is worthwhile to compare these estimated social costs with the revenue obtained (in 1992) through taxing alcoholic beverages. The estimated social costs in Alberta equaled \$749 million, while only \$431 million was obtained in provincial alcohol tax revenue (profit). Clearly, in 1992 liquor taxes were already insufficient, according to the ADDAC estimates.

5.3 Optimal Pricing with External Social Costs

Figure 5.1 illustrates the basic theory of the implications when an external social cost exists in the consumption of some product. The demand or marginal private benefit (MPB) curve shows the benefits to individuals measured by their willingness to pay. The supply or marginal private costs (MPC) of producing the product indicate

Figure 5.1 The Effect of an External Cost on the Private Market for a Product



the quantities that would be produced at alternative prices. The private market equilibrium quantity and price is shown as Q_e , P_e . When the external costs (MEC) are added to private costs (MPC), the marginal social costs (MSC) relationship is created. The optimal quantity and price in this situation is shown as Q^* , P^* . This analysis illustrates that, when there are external social costs in the private consumption of a product, the optimal price (P^*) is higher than the market price (P_e), and the welfare-maximizing optimal quantity (Q^*) produced and consumed is less than the quantity (Q_e) a free market would achieve.

Low prices for alcoholic beverages are not (or should not be) an objective in the responsible control of alcohol consumption. Public welfare is higher when price is high, consumption is low, and revenues obtained are used for compensation of the social costs. However, this does not mean that an inefficient distribution and retailing system, with high costs, is desirable. The government should maximize alcohol tax revenues subject to any pricing policy. From the point of view of Figure 5.1, a higher price and lower consumption of the product is desired because of external costs.

The retail distribution (supply) costs (MPC) should still be kept as low as possible so that, all things constant, the tax rate to achieve the optimal output and price, Q^* , P^* is as high as possible. This issue will be considered more fully in the section on efficiency.

5.4 Price History

The advent of the privatization of liquor retailing, coupled with the changes in the way excise taxes on liquor are assessed, has created quite variable pricing of alcoholic beverages in Alberta. This section will review the price changes over time.

As with most products, Statistics Canada surveys prices on alcoholic beverages on a continuous basis, using the consumer basket determined by the *Family Expenditures Survey*. Using the change in the consumer price index (CPI) for alcoholic beverages, Figure 5.2 shows the inflation rates for alcoholic beverages for all of Canada and for Alberta specifically. As would be expected, these two series track very closely. The exception occurs around the time of privatization (1994) where initial price increases in retail prices spiked

Figure 5.2 Alcohol Beverage Inflation Rates

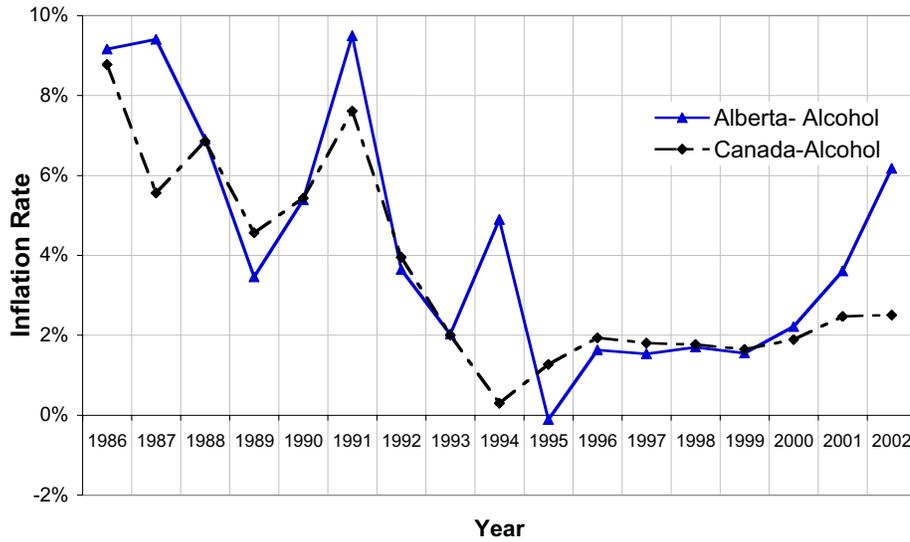
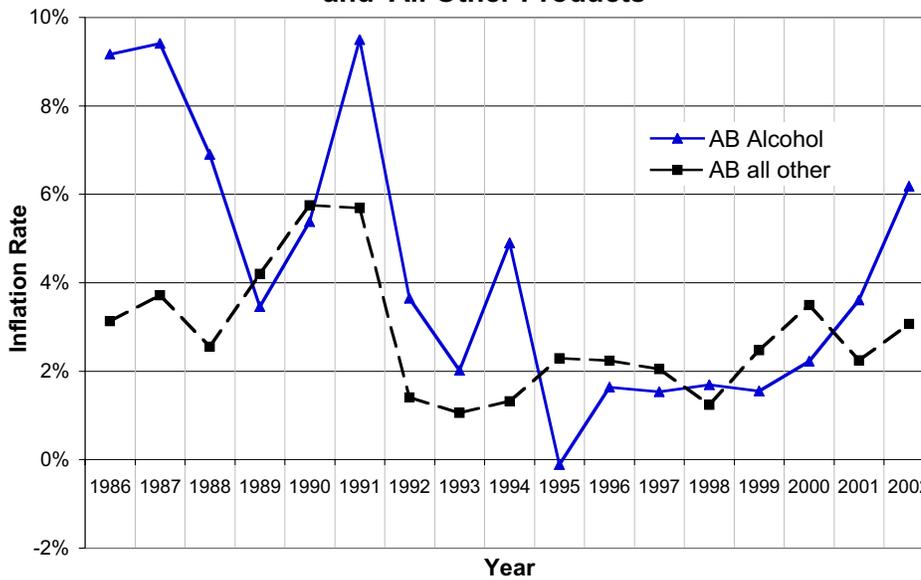


Figure 5.3 Alberta Inflation Rates Alcoholic Beverages and All Other Products



and then fell in 1995. Retail prices were offset in 1995 by a decrease in the wholesale price through a reduction of the excise tax rates (see Table 4.1).

Figure 5.3 uses the CPI for alcoholic beverages and ‘all other goods’—the CPI for all items excluding alcoholic beverages. This figure compares the rise in prices in Alberta calculated as inflation rates—changes in the CPI per year. In

the late 1980s, there was considerably higher inflation in alcohol than in other products. Since 1990 the two rates have tracked fairly closely. The spike for alcoholic beverages in 1994 upon privatization and the drop in the rate in 1995 are not reflected in all other goods. This supports the view that privatization initially increased retail prices, which were then offset by a decrease in wholesale

prices, due largely to a drop in the tax rates. The liquor industry appears to have then absorbed the tax rate decrease and again tracks with the 'all other goods' inflation rate.

In 2001, however, there was a considerable increase in retail prices for liquor in Alberta above that of all other goods. This rise is prior to the tax hikes initiated in April of 2002 (Table 4.1). The sharp increase in the 2002 year end data reflects the increases in the tax on alcohol implemented in April. As this tax increase will be included in the retail prices over time, we are likely to see a significant rise in prices again in 2003.

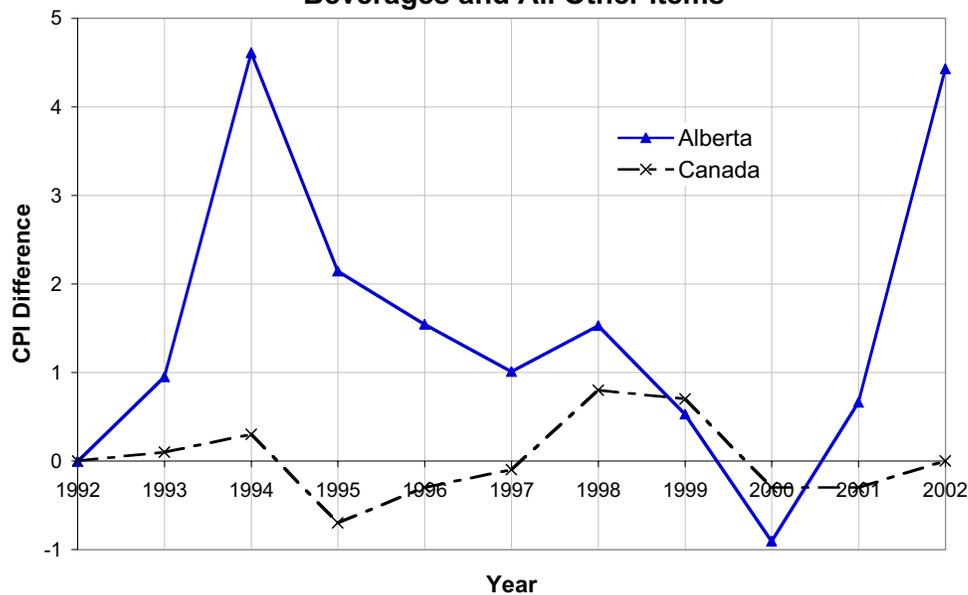
In order to observe the volatility of alcoholic beverage retail prices, the difference between the CPI for alcohol and for 'all other goods' for both Canada (including Alberta) and Alberta is depicted in Figure 5.4. If there was no difference between alcohol and other goods, then the series would be coincident with the zero axis. For Canada the difference is slight. Alberta, however, shows considerable variation in price changes for alcoholic beverages over all other goods. The data illustrate that in Alberta after privatization (1994) liquor prices rose dramatically well in excess of

other goods, and then the rate came down gradually as the new flat rate tax was reduced, both in absolute and relative terms. Proportionally, the price increases of alcoholic beverages were moderated by the flat tax which reduced the relative tax revenues to the government, with its offsetting effect on the rising retail prices of liquor. Figure 5.4 also shows that retail liquor prices in Alberta have taken off above the national average in 2001, and this is prior to the flat tax rate increase in 2002.

5.5 Current Prices

The previous section showed the effect of privatization on the changes in alcohol beverage prices compared to all other goods using Statistics Canada data. A previous study (West) comparing prices over time found similar results in the volatility of prices. Rates of change in prices over time, however, do not tell us the current state of retail liquor prices in Alberta. Nor do they tell us the variability of prices over geographical space. Many comparison price surveys are being conducted to make one point or another. More rigorous work

Figure 5.4 The Difference in CPI between Alcohol Beverages and All Other Items



surely needs to be done if these comparisons are to be of any use and are to be taken seriously.

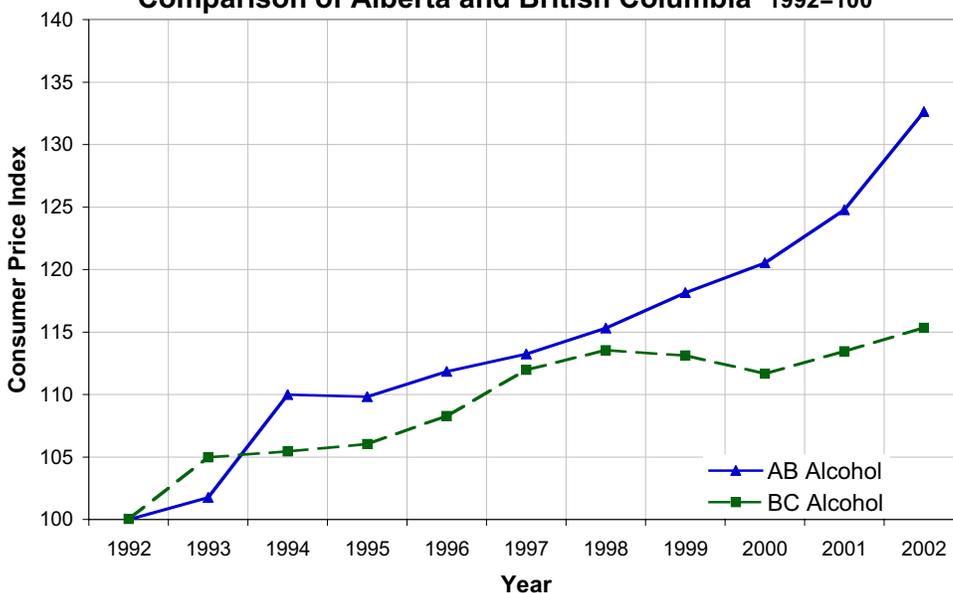
Taken together, most of these comparisons—for example, between Alberta and British Columbia—find that some products are lower in price in one jurisdiction while others are more expensive. This result is likely caused by the different tax methods and the prevalence of variable pricing in Alberta, including sale prices on specific products. Alberta has a flat or unit tax system, while British Columbia has an *ad valorem* (or percentage of cost) tax. This difference will automatically increase the price of higher-cost products in the British Columbia market over Alberta. For example, beer, which is a low cost product per volume of alcohol, is generally cheaper in British Columbia than in Alberta, while spirits and higher-cost wines are more expensive in British Columbia. An anomaly sometimes occurs with liqueurs, where in Alberta the tax is lower, but the price is often higher (because of a larger percentage markup by the retailer). This is likely due to the relative price inelasticity of demand. Simply put: the retailer can mark up the price more on such items, as the price does not affect the

quantity bought as significantly as for, say, beer. Sometimes a sale price is below the wholesale cost and is used as a loss leader to entice customers, where their overall expenditure once in the store may be greater than the cost of the same products if they were bought from another retailer at regular prices.

A comparison of price changes between Alberta and British Columbia is illustrated in Figure 5.5, which tracks the CPI (1992 = 100). Prices in Alberta were traditionally lower than those in British Columbia in the early 1990s. The figure shows that, after retail privatization and the change to a flat tax in Alberta, price increases for alcoholic beverages sold in stores exceeded those in British Columbia. What sold for \$10 in 1992 in each province cost \$13.26 in Alberta and \$11.53 in British Columbia in 2002. Tax rate reductions in Alberta have not been sufficient to keep price increases below those in British Columbia. The reasons for this will be discussed in Section 6.

A small price study was conducted, initially to test the hypothesis that prices rise as one moves out from the urban core to the rural periphery. A modest basket of products was selected, one that

**Figure 5.5 CPI, Alcohol Beverages Sold in Stores
Comparison of Alberta and British Columbia 1992=100**



would represent an average consumer's purchases. This basket included beer (one dozen each of domestic high-volume national producer, and medium-volume Alberta producer); spirits (one 750-ml bottle each of rum, whiskey, and vodka; wine; one 750-ml bottle each of French red, German white, USA white, and Australian red; and one 750-ml bottle of liqueur. The results of this survey are shown in Table 5.1.

The survey did not support the hypothesis that prices are higher as one moves out from the urban centre. But it did show a considerable variability in product prices. The average (mean) cost of the basket was \$184.92 in Alberta. For comparison, the cost of the same basket in British Columbia was \$183.93, an insignificant difference.⁴⁹ There was greater variability within the urban centre, primarily due to transitory sale prices on some products coincident with the time of the survey.

This small survey suggests that there is considerable variability and volatility in prices in Alberta. The total basket cost had a considerable range from a low of \$170.01 and a high of \$201.72. The variance in individual product prices is also considerable (as measured by the coefficient of variation). Beer, with 50% of dollar sales volume, has the least variance in prices across stores. Product knowledge and tastes are much

more likely to be certain for beer. Spirits had greater variance in prices than beer, but again product knowledge and experience is high. It is wine, however, where the large variances show up, likely due to the lower product knowledge on the part of consumers.

There was no correlation between basket cost and distance from the urban core, nor was there any correlation with the basket cost and the number of close competitor stores. In the rural areas, although there may be less competition, some costs are lower: for example, lower retail space rents. Also, the pressure exerted on proprietors who are local residents to be perceived as having 'fair' prices offsets the opportunity of charging higher prices.

Prices vary considerably more in Calgary than in rural communities. Price competition is strongest in Calgary, where discount stores and sales on particular items can mean that prices vary greatly. At the same time, a consumer must be highly aware and willing to incur costs in time if he or she is to achieve any benefit from this price competition. As well, the advantages of store proliferation are lost if one has to cross town in order to get the best price.

From these statistics in Table 5.1, we can get a sense of the price range and variability in Alberta. The Pearson's coefficient of skewness in

	Product	Alberta Wholesale	Mean Price	Standard Deviation	Coefficient of Variation	Pearson's Coefficient of Skewness	British Columbia Price
Beer	1	\$16.29	\$18.78	\$0.58	3.07%	-0.1033	\$17.80
	2	\$16.55	\$19.12	\$0.62	3.23%	0.1066	\$21.10
Spirits	3	\$19.48	\$23.20	\$1.12	4.81%	-0.6011	\$20.50
	4	\$19.53	\$23.27	\$1.01	4.35%	-0.2671	\$20.50
	5	\$22.89	\$27.03	\$1.53	5.65%	0.0732	\$26.00
Wine	6	\$13.60	\$15.07	\$1.71	11.35%	0.0429	\$18.00
	7	\$7.11	\$9.17	\$0.91	9.88%	0.7150	\$10.00
	8	\$9.66	\$11.24	\$1.03	9.19%	-1.9238	\$14.99
	9	\$7.12	\$10.06	\$1.16	11.53%	0.0112	\$9.04
Liqueur	10	\$23.10	\$27.98	\$2.08	7.42%	0.4535	\$26.00
Total Basket Cost		\$155.33	\$184.92				\$183.93

Table 5.1 indicates the degree to which the price distribution is not symmetrical. A positive number indicates skewness to the right (more prices above the mean than below), and a negative number means skewness to the left (more prices below the mean than above). As a general rule of thumb, if the Pearson's coefficient is less than .5, the distribution is symmetrical. Only product 8 has a high (negative) skewness. This suggests that the price differences for the most part are normally distributed: that is, most prices (~95%) fall within one standard deviation of the mean. For example, product 1 has a mean price of \$18.78 and 95% of stores sold at a price between \$18.20 and \$19.36. This compares to the BCLDB price of \$17.80.

The survey shows that prices, on average, are not dissimilar in the two provinces of Alberta and British Columbia. The Alberta Liquor Store Association acknowledges this: "[The association]

feels neither the association nor Commission can any longer claim the province has the most competitive liquor prices, aside from those of high-end unique brands." ⁵⁰ Whereas British Columbia has the same prices throughout the province, set by the British Columbia Liquor Distribution Branch (BCLDB), Alberta retailers are free to set prices at whatever level they choose. This freedom and the types of competition that have evolved in Alberta lead to considerable variation in prices between products and stores. This price variability can create an opportunity for motivated consumers to obtain considerable price advantage if they are prepared to incur the costs of research and travel. For the majority, it is more likely to cause considerable consumer confusion, and most people will frequent a specific store on the basis of some other factor, such as the convenience of the location.

6 The Evolving Market for Alcohol

The advent of privatization has dramatically changed the market structure of liquor retailing in Alberta. Prior to the privatization of liquor retailing initiated in 1993/94, Alberta had 310 total retail stores. Subsequently, AGLC has licensed any business that meets minimal conditions and has expectations of local authority approval. By January 2003, there were 983 retail stores.⁵¹ Why so many stores now, and what is the consequence? There are two reasons for the large increase in the number of private retailers of alcoholic beverages under privatization. Entrants can open a small store with minimal capital costs and easy licensing—easy entry; and these entrepreneurs believe that liquor is an easy industry in which to make profit.

6.1 Physical Availability

The physical availability of alcohol refers to the prevalence of retail outlets that sell alcoholic bev-

erages, usually measured in terms of outlets per capita or outlets per square kilometer. Availability also depends on hours of operation and days open. In Alberta, retail liquor stores, including off-sales, can remain open until 2:00 a.m. 364 days of the year.

Table 6.1 compares the total government retail liquor and agency stores for each province and territory. The data for Alberta shows private liquor and general merchandise stores, but does not include approximately 600 off-sales licensees. As well, the table does not include private stores in provinces other than Alberta. For example, The Beer Store is the primary distribution and sales channel for beer in Ontario, with 433 retail stores in 2002. And in British Columbia in addition to the 368 government and agency stores there are 290 private cold beer and wine stores (now fully licensed for all liquor, including spirits), and 110 private manufacturer /VDQ stores (2002), and 26 consignment agency stores.⁵²

Province or Territory	Year					
	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Newfoundland and Labrador	96	95	100	103	108	109
Prince Edward Island	17	19	19	19	19	19
Nova Scotia	101	102	101	101	102	102
New Brunswick	106	120	118	118	117	118
Quebec	494	497	491	495	467	622
Ontario	682	685	693	702	709	708
Manitoba	225	225	222	219	220	220
Saskatchewan	271	271	270	272	268	268
Alberta	637	674	807	826	826	863
British Columbia	361	363	371	377	389	388
Yukon	7	7	7	7	7	7
Northwest Territories	6	6	6	6	6	6
Nunavut					0	0
Canada (total), excluding AB	2366	2390	2398	2419	2412	2567

Figure 6.1 Liquor Outlets (Ontario and British Columbia adjusted for private outlets)

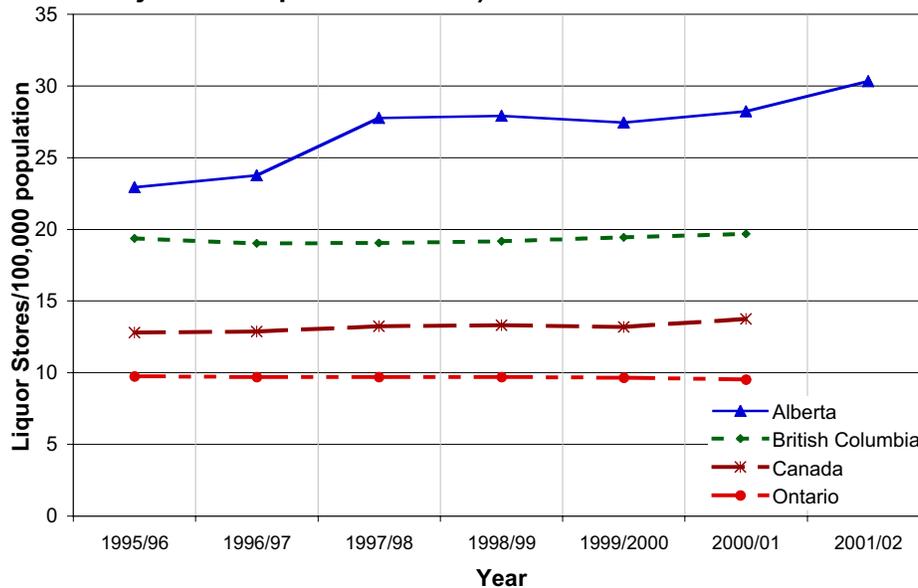


Figure 6.1 illustrates the proliferation of retail stores in Alberta compared to Ontario, British Columbia, and the Canadian average stores on a per capita basis. In 2000-2001, Alberta had almost three times the national average of stores per capita and more than a third greater than the number in British Columbia. The number of stores in Alberta continues to climb.

A major reason for the social concern about the unrestricted availability of alcoholic products is the fact that, other things being equal, increased access to alcohol will increase alcohol abuse by the population groups at risk, even if the level of consumption by the majority of the population remains more or less unaffected. Just who really shops for liquor at 2:00 a.m., anyway?

Notwithstanding the previous macro perspective on crime rates discussed in Section 3, Laxer *et al*/documented many empirical studies that generally support the hypothesis that unrestricted free markets increase alcohol consumption while public monopolies restrict consumption. For example, Gruenewald and Millar have documented the research linking the availability of liquor products to consumption and consumption to crime,

violence, and automobile crashes in American jurisdictions.⁵³ “Current research suggests that different degrees in physical availability are directly related to differences in rates of alcohol consumption and related problems.”⁵⁴

A major objective of the creation of ALCB in 1924 was to control the sale of alcoholic beverages. ALCB directed its efforts over the years to serving Albertans in a socially responsible way. Is it possible for a private market to go against its own self-interest in maximizing sales and profit and limit sales for socially responsible reasons? The concept of availability should also include the willingness to sell to minors and intoxicated persons even when these sales are illegal but in the economic interest of the retailer.

6.2 Market Structure or Industrial Organization

Economists study a given industry using theoretical models to guide their analysis.⁵⁵ These models range along a continuum, with monopoly at one end, through various forms of imperfect compe-

tition, including oligopoly (a few firms) and monopolistic competition, to the other end of the spectrum with perfect competition. Monopoly is a single seller with complete control of the market and barriers to prevent others from entering the market. The other extreme, perfect competition, includes a large number of firms, easy entry into the industry, and (importantly) each firm provides a very similar (identical) product. Perfect competition results in the situation where each firm is a price taker and has no market power. Real world situations generally fall into the mid-range of this continuum where varying degrees of market power and competition exists.

Monopoly can occur 'naturally' if there are large economies of scale or through multiple-output production (economies of scope) such that only one producer (seller) could achieve the lowest possible cost of production given the size of the market. Otherwise, a monopoly can only exist through government protection or ownership, or illegal anti-competitive behaviour. The economics literature explains the inherent inefficiency when a private monopoly maximizes its profit through its ability to set price above cost, and restricts the quantities of the product on the market. The society incurs a welfare loss because less is produced and a higher price is charged than resource scarcity would require. This clearly can happen only when the monopoly is private and the firm's objective is profit maximization. Public ownership of the monopoly, or regulation of a private natural monopoly, changes the firm's objective from one of profit maximization to the public objective, often output maximization with a price equal to cost (including a normal profit) where welfare is maximized.⁵⁶

The reason for public control through near monopoly ownership of liquor retail outlets was neither to maximize profit nor was it essentially for consumer convenience. And the objective was never to maximize output at the lowest possible price such as was the case for telephone service

(Alberta Government telephones) when it was publicly-owned. Public ownership of liquor retailing was put in place to limit the distribution of liquor in a reasonable and socially responsible manner and to ensure the implementation and collection of excise tax on alcoholic beverages. However, the public retailing of liquor through a monopoly was able to take advantage of any economies of scale available, and was able to plan for the number, size, location, and opening dates and times of retail stores in a socially responsible manner.

It appears that the Alberta government implemented liquor retail privatization on the ideological belief in competition: Adam Smith's idealized state of 'invisible hand' perfect competition where a large number of firms producing essentially the identical product with no cost advantage compete on price, and the market realizes a price equal to the lowest cost of production. The government also assumed the private sector, through a competitive market, could meet consumer desires and respond better to more localized market conditions, while also achieving the lowest retail prices. There are two things to note about this. First, this is a major change in attitude toward liquor as a product—treating as if it were just another innocuous consumer good. Second, it assumes that a competitive (read: perfectly competitive) industry would result where the lowest cost of production (retailing cost) would be achieved and prices would fall to this cost.

6.3 The Alberta Liquor Retail Market Structure

Liquor retailing in Alberta is currently not a perfectly competitive industry. It is a 'monopolistically competitive' industry, one in which there are a large number of firms, as in perfect competition, but each firm produces a

product that is differentiated from that produced by its competitors. Many other service industries are also examples of monopolistic competition. The current structure is still evolving and the industry is experiencing considerable change as the economies of scale are exploited and chains get a firmer hold on the market. As chains develop, the market will move towards oligopoly where a few large firms compete. At present, the restriction that wholesale prices, and particularly delivery and transportation costs, be uniform to all vendors wherever they are located has limited the degree of economies being realized.

The number of firms that make up a monopolistically competitive industry can be very high, as it is relatively easy to enter and exit the industry. As a result, no one of them is large enough to dominate the market. In the liquor retail business in Alberta, there are over 1,580 class D licensees, with over 900 retail stores. As an indication of the size of the typical firm, there is an average of about four workers per store, with average annual sales less than \$1 million each. This means the average outlet accounts for only about 1/1000th of total industry sales.

6.4 Product Differentiation

Unlike perfect competition, in which firms produce an identical product, in a monopolistically competitive industry each firm's product is slightly different from every other's, therefore each firm has limited power as a price setter, and firms engage in considerable non-price competition. The considerable variability of liquor prices in Alberta, the increasing differentiation of stores and products, and the increasing prevalence of advertising, all support the view of the industry as monopolistically competitive.

The key characteristic in a monopolistic competitive industry is product differentiation. Differentiation occurs in a number of ways. The pre-

dominant differentiation of retail outlets is location. Convenience of location is arguably the most important difference. For example, the proximity to a major grocery store has always been a great advantage. The grocery chains themselves are moving quickly to exploit this advantage and will likely come to dominate the market. Other important characteristics create differences between outlets.

There are now over 17,000 SKUs on the wholesale list. Even the largest of retail stores can stock only a fraction of these products. This plethora of products creates an opportunity for consumer confusion. Just the particular selection from this number of products differentiates the store. Some stores stock as few as 400 items. As all licensees must pay cash for their stock, they are therefore motivated to keep the items on the shelves restricted to those that turn over frequently.

Store decor has become a point of differentiation. Some stores present a professional attractive environment. Obviously this involves costs. Others, such as deep discount stores, keep their store appearance and decor costs to a minimum, presenting a rather shabby public front. There are stores that have invested in obtaining considerable expertise in wines and differentiate themselves by offering wine-tasting events, and courses on wine selection. Some operators distinguish themselves by offering delivery service. Opening time was extended to 2:00 a.m. but most stores find it too costly to remain open this late (early). However, some stores differentiate by staying open right up to this mandated closing time. Other stores have frequent-user discounts. Some have joined the Preferred Alberta Liquor Stores (PALS) program which offers air miles with purchases. There are currently 108 stores enrolled in this popular reward program. The Calgary Cooperative Association extends its member benefits to liquor store purchases, as does Safeway.

The Real Canadian Liquor Store also differentiates by having a lower price per unit if four or

six units are purchased at one time. A small store owner says in frustration: "Certain customers come in to buy their regular six-pack, but when they have a party they go to the Real Canadian Liquor Store to get the discounts. I am not going to stay in business just for this convenience."

Product differentiation is clearly the most important difference between monopolistic competition and perfect competition. What are the consequences?

Product differentiation means an individual liquor store faces a downward sloping demand. Since each firm's product is a close, but not perfect, substitute for every other firm's product, demand is quite elastic, but not perfectly so. This is in contrast to a purely competitive market where each firm produces essentially the same product and therefore faces the same market price. This characteristic is the 'monopolistic' aspect of monopolistic competition and, coupled with the low barriers to entry into the industry, determines the particular outcomes of this form of market structure.

In a monopolistically competitive industry, firms have the same kind of freedom to enter into and exit from the industry as they do in a perfectly competitive industry. In Alberta, potential liquor store operators face little difficulty in obtaining a license. Licenses are not transferable, nor can they be sold, so that no economic rent resides in holding a license, as is the case, for example, in taxi licenses. Any limit on the number of stores, location, and size has been left to the municipal governments. Freedom of entry and exit means that there are no barriers to competition in a monopolistically competitive industry. This makes for keen non-price competition among firms and ensures that in the long run no monopolistically competitive firm is able to make a greater than normal profit.

Since each firm produces a similar but somewhat different product compared to every other firm in the industry, there is an incentive for each

firm to play up the difference in its product in order to boost its sales. This non-price competition takes many forms. Anything that may serve to distinguish a firm's product from that of its competitors in this way might be tried, so long as the firm feels that the cost of such promotional activity is more than made up for by the resulting increase in sales. Advertising of liquor in local newspapers, shoppers' guides, the Internet, and other media outlets is becoming common. A particularly insidious form of this is the u-haul sign at the side of the roadway beckoning you to come in and try this or buy that. Lately the *Calgary Herald* has displayed a person wearing a large beer can (Budweiser) for a head attempting to attract customers to get a discount on beer. This non-price competition raises costs.

The wide variability in prices now found in Alberta demonstrates the degree of differentiation. For instance, the more a firm's product is similar to that of other firms in the industry, the more willing consumers will be to switch to that firm's product if it lowers its price, and away from that firm's product if it raises its price. Thus, the greater the degree of similarity, and therefore substitutability, between a firm's product and those of its competitors, the greater will be the change in its sales resulting from any given change in price. In the extreme case of perfect substitutability, the firm's demand curve is perfectly horizontal, or infinitely elastic, and we are in a perfectly competitive environment. Alternatively, the more product differentiation there is among firms in the industry, the less elastic will be the individual firm's demand curve. Convenience of location as the most important differentiation means, for example, that one will be willing to pay a higher price than he or she might be able to obtain, if the location of the store is handy. A monopolistically competitive firm is able to affect its level of sales by changing its price; it is in this respect similar to a monopoly.

6.5 Excess Capacity—Too Many Retailers

Monopolistic competition creates an environment allowing for an inefficient number of outlets, where each firm has higher costs than necessary, but most still manage to obtain sufficient revenue to cover the costs of operation (barely) and stay in business. As one owner of a small 'mom and pop' operation in Calgary stated: "I hope to make it through this year, but it's not easy." Excess capacity is the problem with a monopolistically competitive industry. There are far too many outlets retailing liquor in Alberta, with far too little traffic on average. This excess capacity pushes up unit sales costs well beyond what would occur in an efficiently run monopoly or oligopoly market structure. As another store owner expressed it, "I like to work hard when I go to work. Here I can sit for hours before one customer comes in the door." This excess capacity creates higher costs. The costs of non-price competition and idleness occur even though wages for hired staff have fallen well below one-half the wage and benefits found previously in the unionized ALCB. The costs of excess capacity are keeping retail prices relatively high even as the percentage return to government in taxes is falling.

The welfare consequences of this are not without controversy. There is a trade-off going on with monopolistic competitive markets: variety in the market with excess capacity and higher prices (costs) *versus* more standardization and lower prices (costs). Chamberlain and Robinson are both attributed as founders of the theory of monopolistic competition. Chamberlain took a positive view to the diversity of products and opportunities for choice that monopolistic competition created.⁵⁷ Robinson, in contrast, stressed the waste and unnecessarily higher costs incurred by the excess capacity.⁵⁸ Whatever one's point of view as a consumer about the benefits, there is no ques-

tion the costs are considerably higher. It appears that the government has wanted low retail prices and has been willing to reduce the tax rates in order to accomplish this, thus masking some of the inherent higher costs of the market structure that have resulted since privatizing retail liquor sales.

6.6 The Growth of Chain Stores

The market might achieve greater efficiencies over time. A current restraint on efficiency from a market perspective is the wholesale cost and transportation structure. As well, the current requirement that all entrants create stand-alone facilities prevents grocery chains from achieving the cost advantages of offering liquor products in their current retail space. This has limited the opportunity for firms to realize some cost advantages that might be attained by size or location. This handicaps the industry from achieving greater concentration, a move toward a more oligopolistic market structure. There are, however, some economies of scale to be had and the chains are beginning to realize them. These economies include administrative advantages, advertising, and mini-warehousing.

The same administrative functions can be conducted for a large range of output (sales). Tracking, ordering, invoicing, paying the bills, etc., all have to be done whether you have one small (400-item) store or 10 large stores. These functions cost much less per unit for the larger operation. When these functions are integrated into an existing grocery store with much the same administrative tasks, the cost per unit is reduced even more. Advertising, especially in the large daily newspapers, is expensive. Small stores cannot afford to do it. The larger the chain, the more it can spread the costs of this advertising over all of its outlets as long as the advertised products and prices are the same at each location.

Mini-warehousing—i.e., using one large store to feed other smaller operations—is one way to reduce costs. For example, this allows for case-lot purchases of an expensive product and splitting out single bottles in order to expand offerings in each particular store in a chain. A single store cannot often afford to purchase and stock a case (the minimum) of expensive products.

Laxer *et al* predicted in 1994 that the industry would likely evolve in this way: “Specifically, the current system of small, independent retailers is temporary, and that alcohol retailing in Alberta will in future be conducted by groceries and other large chains.”⁵⁹ Table 6.1 shows the current state of chains in Alberta. At present, chains constitute about 13.5% of all stores, but operate primarily in the urban centres where they are a larger percentage of the local market. This trend is just beginning to take on steam. The Calgary Cooperative Association has been expanding into liquor retail quickly. Safeway has only recently entered the market and will surely expand. IGA stores are now considering entering the industry and have made offers to existing liquor stores near their stores. Willow Park has recently purchased at least two other competitors and will be converting these

to their chain soon. As Willow Park is adding two stories to its flagship store for administrative offices, we can expect an ambitious plan of expansion.

6.7 Wholesale Costs

Increased prices and reduced government tax revenue are not due solely to the cost inefficiencies found in the resulting monopolistic competitive retail industrial structure. A partial explanation of these results is found in increases in wholesale prices. These increases are due to both the increased costs of the legislative/enforcement method of regulation and to the increased landed costs of the manufacturers.

If Alberta had an efficient distribution system, it should be able to obtain approximately the same percentage return on *net* sales as does British Columbia. Table 6.2 shows the operating accounts for Alberta and British Columbia for the year ending March 31, 2002. Alberta received a 35.7% return from sales, while British Columbia received 40.8%. This latter amount does not count the social services tax revenue from liquor sales in British Columbia where final prices in-

Company	Number	Percent of stores
Calgary Co-Operative Association	11	1.21%
Greyhound Canada	4	0.44%
Liquor Barn	3	0.33%
Liquor Depot	23	2.53%
Liquor World	15	1.65%
Lucky Liquor Store	4	0.44%
O K Liquor Store	6	0.66%
Olympia Liquor Cold Beer and Wine	3	0.33%
Patterson Liquor Stores	3	0.33%
Royal Liquor Merchants	3	0.33%
Safeway Liquor Store	5	0.55%
Spirits of Belmont	9	0.99%
The Real Canadian Liquorstore	19	2.09%
Tops Liquor	3	0.33%
Willow Park	12	1.32%
Total	123	13.52%

Description	British Columbia	Alberta
Gross sales	\$1,792,877	
Operating expenses	\$231,859	
Net sales (wholesale)	\$1,561,018	\$1,379,629
Cost of sales (less PST)	\$777,704	\$887,075
Social Services Tax (PST)	\$105,044	N/A
Gross profit	\$678,270	
Capital costs*	\$41,597	
Profit (net income)	\$636,673	\$492,554
Percent profit/Net sales	40.8%	35.7%
Percent tax/Net sales	47.5%	35.7%
*Enhancements to owned retail operations		
Source: AGLC and BCLDB 2001-2002 annual reports		

clude the social services tax (PST). If we added this revenue to the British Columbia government's take, we would have to compare Alberta's 35.7% to 47.5% in British Columbia.

In the years prior to privatization, the ALCB (when the retailing of alcoholic beverages was still a part of their operations) obtained the same percentage returns as the BCLDB has in 2002. The ALCB reported returns for 1990 through 1993, at 40.52%, 40.85%, and 41.68%, respectively.⁶⁰

The 2002 wholesale prices under AGLC must include some hefty operating costs that did not exist in the former ALCB. For example, the cost in British Columbia of selling \$1.5 billion at the wholesale level was \$778 million, or 52%. Alberta spent \$887 million to sell \$1.38 billion, or 64%. The AGLC has considerably higher costs per \$1 of sales. The AGLC has to cover the costs of inspectors and auditors which, compared to a public distribution system, are higher due to the greater number of retail stores and the greater variability in quality of their operations compared to a publicly-run system. It appears that, had the government of Alberta retained the retail component through the ALCB, distribution would not cost much more than it does now under AGCL (without a retail component).

In 1992, the ALCB's total operating expense (in current dollars) was \$83,451,000. This figure

included wages and benefits of \$53,434,000. If the total operating expense in 1992 is corrected for inflation and population increases, and with an appropriate expansion in stores, it would have cost \$125 million to operate the Alberta liquor distribution system in 2002, including the retailing. If we assume an average return of 15% (this includes GST on the retail markup) in the private retail market in Alberta, it cost more than \$200 million in 2002, in addition to the higher wholesale costs created by the new regulatory regime.

Not all of the increased wholesale costs can be attributed to regulatory inefficiencies. The government recently conducted a review of the liquor mark-up structure in Alberta. It is worth quoting at length from this review:⁶¹

Manufacturers or liquor suppliers set the landed cost of their product at their discretion. Curiously, the landed cost for identical beer products varies across provincial jurisdictions; in some cases the variation is dramatic. In effect, the landed cost of the same product sold in another province may be higher or lower than the landed cost in Alberta. The influence of the landed cost on the final retail price of beer product should not be underestimated.

PRODUCT	AB	BC	SK	ON
Labatt Blue (6-pack cans)	\$5.13	\$4.18	\$5.07	\$7.84
Molson Canadian (6-pack cans)	\$5.13	\$4.18	\$5.09	\$7.84
Corona (6-pack bottles)	\$6.06	\$4.97	\$4.98	\$6.72
Crown Royal (750 ml)	\$11.20	\$8.40	\$8.88	\$9.30
Smirnoff Vodka (750 ml)	\$8.07	\$6.65	\$7.09	\$7.27
Le Piat D'or Red (750 ml)	\$4.28	\$3.55	\$3.66	\$3.20

The following table [Table 6.4] gives the landed costs of a few popular products in four provinces in November 2002.

The Commission has also observed that an adjustment in the liquor mark-up does not always translate into an equal adjustment in the product's wholesale price. For example, all previous adjustments in the beer mark-up since privatization of liquor retailing have been downward adjustments, or a decrease in the mark-up rates. There have been situations where a decrease in the liquor mark-up rate for beer was met by an equal increase in the landed cost of various beer products. Thus the intent of a lower mark-up, specifically a decrease in the wholesale price, may be effectively negated by a manufacturer's/supplier's increase in the landed cost of the liquor product. Consequently, there is no decrease in the wholesale price of the product, the price paid by liquor retailers for the liquor product before it reaches their shelves.

Oligopolist liquor producers appear to be utilizing their market power in order to set prices. In defence of the manufacturers, the change to a

private market has increased the number and frequency of visits that distributors have to make to the numerous individual stores, thus increasing the marketing costs incurred by the distributors. Some of these increased costs have been passed on to the retailers and their customers in the form of increased landed costs, thus pushing up wholesale prices.

These numbers very much emphasize the extra costs inherent in the development of a monopolistic competitive liquor retail industry in Alberta. Public liquor control boards that own and operate retail stores clearly have lower operating costs. The numerous privately-owned retail outlets are fragmented and have multiplied rapidly, while public monopoly stores were open for fewer hours and had an integrated and centralized distribution network and operations. Individual privately-owned stores have higher capital and borrowing costs, and their inventory must be paid for in cash. Couple this with the larger number of stores and the costs increase considerably. The government has given up the greater control of the alcohol distribution system that public retailing ensured, and consumers have lost considerable welfare with higher prices and less public revenue.

7 Conclusions

The retail liquor industry in Alberta has been evolving over the past decade following the change from a government monopoly to a competitive private market and the change from an *ad valorem* tax to the unit or flat tax mark-up. Competition was touted at the time as a means to lower prices and improve consumer service and convenience, while retaining public safety through regulation and enforcement and maintaining public revenues through control at the wholesale level.

The jury is still out on the effects of privatization on social issues. Evidence on the links between alcohol consumption and social ills is overwhelming. Absolute alcohol consumption has begun to climb in Alberta only since 1997. Aggregated crime statistics show major crimes are falling in Alberta, as they are everywhere in North America, largely due to demographic shifts, particularly an aging population. However, thorough study of the use of alcohol and criminal behaviour at the micro level needs to be conducted in order to see what changes are occurring due to the greater availability of liquor since privatization of liquor retailing. This study would need to focus on particular problem areas, such as the urban city centres and low-income residential areas. A major study is under way by the Centre for Addiction and Mental Health in Toronto on the levels of alcoholism and other social ills associated with alcohol use.

From a public policy perspective, the introduction of a private market in the distribution of alcoholic beverages is controversial and questionable. The incentive mechanism in the private marketing of any product is profit maximization. This incentive, which works very well with most private products, is incompatible with many of

the public's objectives concerning liquor products. The objective of private firms is to sell product. The public's objective is to minimize the abuse of alcohol through the limit and control of the sale of liquor, in particular to prevent the sale to underage consumers and the intoxicated. Additionally, socially responsible marketing would educate the public about such dangers as drinking and driving and fetal alcohol syndrome. A publicly-owned and controlled system of distribution does not have this inherent incompatibility of incentives.

Because of the incentive incompatibilities inherent in the private markets for liquor, the government has had to implement greater regulation and appeal to the criminal justice system to a much greater extent in order to maintain public objectives around alcohol. This, of course, adds costs to liquor distribution, some of which are incurred in the ministry through inspectors while others are shifted to police departments.

Ironically, having shifted to a private market for liquor distribution, the government has handicapped this market in its ability to achieve market efficiencies. These efficiencies have been limited by the control on the wholesale distribution and transportation costs—limited in order to have a 'level playing field'—and the restriction requiring stand-alone outlets. Of course, in competitive markets for other products, one of the major factors in achieving market efficiencies is the freedom to find less costly mechanisms of retailing. For good or for bad, for example, the traditional corner store has all but been eliminated by franchised chains such as 7-Eleven and Mac's Convenience Stores.

The private retail liquor market has evolved into one where there is considerable inefficiency

in the form of excess capacity, duplication, and redundancy, particularly in urban centres. This inefficiency generates considerable higher costs of retailing, even though wages are at one-half compared to other jurisdictions. As prices are comparable to those found in British Columbia,⁶² although with considerable variation, the tax revenues returned to government are much lower in Alberta. This means the privatization effort has been supported and subsidized by the government through a reduction in the tax share of the final retail price. It is this tax reduction that has in effect prevented prices from escalating due to the cost increases caused by excess capacity.

Even though the market is currently handicapped, there are sufficient economies of scale facilitating the expansion of retail chains. The future direction appears to be moving in favour of the large grocery chains where Safeway, The Real Canadian Superstore, the Calgary Cooperative Association Ltd., IGA, and others dominate the market. These chains are more favourable for organized unions to negotiate for a share in the productivity gains and cost efficiencies realized through size. It is expected that an industry shake-down is imminent that will likely reduce the number of stores per capita, increase efficiencies, and increase wages and benefits in the industry.

The movement from a government monopoly to a private market has resulted in an inefficient, monopolistically competitive market which has the questionable advantage of a degree of greater convenience with the large number of stores open longer and later hours. However, easy access to liquor, a potentially damaging product, was not a public objective for the distribution of liquor. Prices have increased, but not to the degree they might have only because the share taken as government revenue through excise taxes has fallen.

It has been suggested in some studies that increased convenience has lowered transportation costs. This may appear to be true, at least in the

urban centres, but each store has a limited selection in a considerably differentiated market, and the large variability in prices may actually increase costs when price and product search costs are added in. Additionally, it would be rare to expect that the average consumer would make a trip singularly for liquor. It is more likely that a consumer would combine his or her liquor shopping with a trip to the grocery store, or with some other need such as the dry cleaners, drug store, etc. It is this behaviour in fact that makes liquor store location near a grocery store so attractive in the first place.

Many more rural and small towns now have liquor stores, suggesting greater convenience for these people. However, the former ALCB stores provided uniform prices, a higher selection, and lower prices for rural consumers than market factors alone would allow. Small stores carry less stock because of physical limitations, and owners cannot afford to have considerable capital tied up in stock. The trade-off is less selection for more convenience in small towns and rural areas.

In the final analysis, the policy changes implemented in Alberta in 1993/94 have considerably diminished the government's ability to implement public control of liquor distribution. Additionally, the government has downloaded the consequent problems to municipal jurisdictions where, for example, the City of Calgary is grappling with appropriate controls on the retailing of liquor. The public welfare has been reduced with the loss of tax revenue. The willingness to obtain lower tax revenue has masked the inefficiencies in the retail and wholesale system by moderating price increases. Greater product variety has increased consumer benefits to some degree, yet consumers have also lost with the higher prices of alcoholic beverages. Along with greater availability, liquor consumption is again on the rise in Alberta, along with the associated ill-effects research indicates is likely to follow.

Endnotes

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- ³ Statistics Canada refers to the provincial revenue from alcohol sales as profit; technically it is excise tax revenue. The amount transferred to government general revenues was never exactly the same amount as the profit in a given year.
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- ¹¹ Table 2. Recorded per capita consumption of pure alcohol (litres) per adult 15 years of age and over in 1996, World Health Organization, *Global Status Report On Alcohol*, Geneva: 1999, p.10-13.
- ¹² Table 3. Trends in recorded per capita consumption of pure alcohol, (litres) per adult 15 years of age and over between 1970-1996. World Health Organization, *Global Status Report On Alcohol*, Geneva: 1999, pp.13-16.
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- ¹⁸ World Health Organization, *Global Status Report On Alcohol*, Geneva: 1999, p.9.
- ¹⁹ See for example, K. Makela, R. Room, E. Single, P. Sulkunen, and B. Walsh, *Alcohol, Society, and the State I*, Toronto: Addiction Research Foundation, 1981.
- ²⁰ Carol Oliver, Heather White, and Dr. Margaret Edwards, *Fetal Alcohol Syndrome: a hopeful challenge for children and families and communities*, A Report to Health Canada: June 4, 1998.
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- ²² Thomas Babor, “Alcohol, Economics and the Ecological Fallacy, Toward an Integration of Experimental and Quasi-experimental Research”, in Eric Single and Thomas Storm, editors, *Public Drinking and Public Policy: proceedings of a symposium on observation studies held at Banff, Alberta, Canada, April 26-28, 1984*, Toronto: Addiction Research Foundation, 1985.
- ²³ Health Canada, *Results of Canada's Alcohol and Other Drugs Survey (CADS)*, November 17, 1995.
- ²⁴ Statistics Canada, *Juristat*— Catalogue no. 85-002, Vol. 21, No.9, October 2001.
- ²⁵ I have requested data on alcohol related crime from the Calgary Police Service. The CPS is currently completing a study of its own to be released in the near future. I am relying on data included in West (2002) and in The Canadian Taxpayers Federation report, *Ending the Prohibition of Competition, the case for competitive liquor sales in British Columbia*, March 2002.

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- 32 British Columbia Liquor Distribution Branch, *2001-2002 Annual Report*, June 2002.
- 33 *Calgary Herald*, Tuesday, March 18, 2003.
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- 38 *Health Benefits and Risks of Moderate Alcohol Consumption* Sandra Goatcher, *Policy Background Paper* Prepared by Policy and Planning for the Alberta Alcohol and Drug Abuse Commission, May 2002.
- 39 The Ramsey rule (or inverse rule) results from the analysis of the excess burden of a commodity tax. Excess burden is the net lost welfare from a tax. The consumer loses, with a tax, an amount greater than the revenue the government gains—the difference is the excess burden. Excess burden can be minimized if each commodity tax level is specific and inverse to the price elasticity of demand. For example, a good with low elasticity (inelastic), i.e. the quantity is not responsive to price, could have a high tax and not have much excess burden. A price elastic commodity would have a high excess burden the greater the tax imposed. Thus to minimize total excess burden each good should have a specific tax rate applied according to its price elasticity.
- 40 Leisure is a ‘good’ that one enjoys when they do not work. It can only be taxed implicitly by taxing at a greater rate goods complementary (consumed jointly) to leisure. This concept is called the Corlett-Hague rule.
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- 42 *Excise Act* (R.S. 1985, c. E-14) Updated to December 31, 2001.
- 43 *Excise Tax Act* (R.S. 1985, c. E-15) Updated to December 31, 2001.
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- ⁵⁵ See: C. Michael Fellows, Gregory L. Flanagan, Stan Shedd, and Roger N. Waud, *Economics in a Canadian Setting*, New York: HarperCollins CollegePublishers, 1993 or C. Michael Fellows, Gregory L. Flanagan, Stan Shedd, *Economic Issues, a Canadian Perspective*, Toronto: Irwin (McGraw-Hill Ryerson Ltd.), 1997.
- ⁵⁶ See for example Daniel Spulber, *Regulation and Markets*, Cambridge: The MIT Press, 1989.
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- ⁵⁸ Joan Robinson, *The Economics of Imperfect Competition*, London: Macmillan & Co., 1933.
- ⁵⁹ Laxer *et al*, pg 11.
- ⁶⁰ ALCB annual reports, 1991-1994.
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- ⁶² British Columbia's retail liquor prices include a provincial sales tax of 10 percent. Therefore, BC liquor prices are effectively 10 percent cheaper. (Other products have a 7.5 percent provincial sales tax with some exemptions.) Comparable liquor products, under the same market conditions, would be 10 percent higher in BC due to this tax.

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