

The Canadian Tobacco Market Place

Estimating the volume of Contraband Sales of Tobacco in Canada: 2006-2011

Updated and Revised –April 2013

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Introduction

Although contraband tobacco sales have been identified as a major concern by health organizations, tobacco suppliers and governments, there have been no official government estimates provided of the level of contraband activity in Canada.

We previously attempted to estimate the volume of contraband cigarettes in Canada by comparing actual sales to historic levels of consumption on a per-smoker basis. To do this we used estimates of the number of smokers produced by the Canadian Tobacco Use Monitoring Survey, sales data from Health Canada reports of wholesale shipments, and historic levels of consumption by taking an average consumption from the first 3 years of the CTUMS survey (1999-2001).¹

We believe that problems and limitations of this approach have increased over time.

- CTUMS is no longer the only annual survey of tobacco use, and there are unresolved discrepancies between it and the other large national survey, the Canadian Community Health Survey,
- Health Canada has changed the way it reports wholesale shipments of tobacco products, in ways that produce discrepancies with volumes we cited earlier. This data is not provided in a consistent manner (i.e. either weight or unit measurement), and adjustments are required to some reports.
- Estimates of actual consumption that are based on on measurements that were taken a decade earlier, before smoking bans were implemented and taxes were increased, seem less reliable over time.
- The largest tobacco company has changed its manufacturing and wholesaling practices, which have unknown effects on regional reports of shipments.

To respond to these challenges, we are repeating our estimation exercise with a few changes and several additional caveats. We have also corrected an error in earlier estimates in which we attributing CCHS data for 2000-2001 to the incorrect calendar year.

The illicit trade in tobacco products is a serious problem in many countries – meaning that up to 12 per cent of global volume is traded on the black market.

*British American Tobacco
Annual Report 2010, p. 20.*

On a global basis, illicit trade may account for as much as 10% of global cigarette consumption.

*Philip Morris International.
Annual Report. 2010, p. 27*

The estimation method:

In this paper, we attempt to establish a rough estimate of the illicit market for tobacco products by comparing the expected consumption (based on the number of smokers and historic smoking patterns) with the actual legal sales. We use the gap between what is reported as sold and what is most likely smoked as an estimate of the size of the illegal market.

$$\text{Illicit tobacco sales} = \text{Total tobacco use} - \text{legal sales}$$

Where total tobacco use is calculated by multiplying the number of smokers by the number of cigarettes an average smoker would use.

1 See Estimating the volume of Contraband Sales of Tobacco in Canada in 2009
http://www.smoke-free.ca/pdf_1/Estimating%20the%20volume%20of%20Contraband%20Sales%20of%20Tobacco%20in%20Canada-2009.pdf

1 How many smokers are there in Canada?

Official estimates of the number of Canadian smokers vary by over one million people.

There are at least two large annual Government of Canada surveys which measure cigarette smoking by Canadians:

- The **Canadian Community Health Survey (CCHS)** was launched as a biennial survey in 2000-2001, but annual data has been provided since 2007. There was no data collected for 2002. The target population is all Canadians 12 and over, including those living in the Territories. The annual survey data provides responses from 65,000 Canadians (the biennial version provides data from 130,000).²

According to CCHS, in 2011 20% of Canadians smoked on a daily or occasional basis (5,764,843 people). (The 95% confidence interval puts the estimated smoking rate between 19.3% and 19.9% or 5,597,786 and 6,931,899 people). Appendix Table 1a shows the number of smokers for each province and region estimated by CCHS.

- The **Canadian Tobacco Use Monitoring Survey (CTUMS)** was launched as a semi-annual survey in 1999 and is administered by Statistics Canada on behalf of Health Canada. The target population is Canadians aged 15 and over, normally excluding those in the northern territories. The annual survey data provides responses from about 20,000 Canadians (the semi-annual release provides data from 10,000).³

According to CTUMS, in 2011 17% of Canadians smoked on a daily or occasional basis (4,910,520 people). (The 95% confidence interval puts estimates of smoking in Canada between 16.2% and 18.4% of the non-child population or 4,592,214 to 5,215,848 people.) Appendix Table 1b shows the number of smokers for each province and region estimated by CTUMS.

These two surveys have provided consistent, but differing, estimates of the number of Canadian smokers, as shown in the figures below and Appendix Table 1c. The larger estimate provided by the CCHS cannot be accounted for by the increased scope of the survey, which includes Canadians 12 to 14 years of age and also those living in northern regions.

As we will discuss later, the changing discrepancy between these surveys adds to the challenge of estimating the volume of illicit tobacco sales in Canada.

Figure 1a: Prevalence of "current smoking": Comparison of CTUMS and CCHS estimates

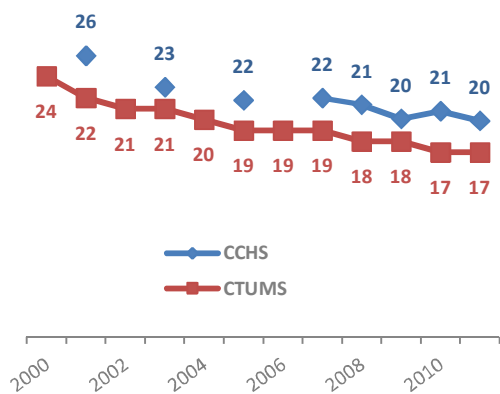
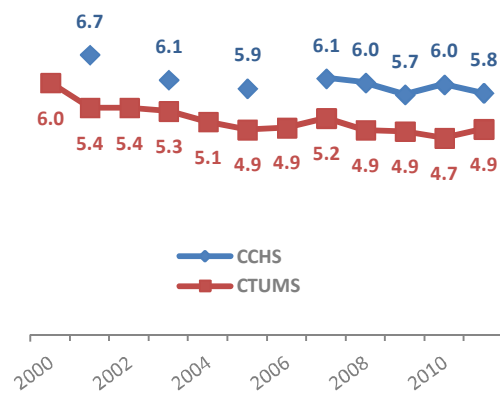


Figure 1b: Millions of smokers: Comparison of CTUMS and CCHS estimates



2 Statistics Canada. Canadian Community Health Survey - Annual Component (CCHS). Cansim Table 105-0501. See <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3226&lang=en&db=imdb&adm=8&dis=2>

3 Canadian Tobacco Use Monitoring Survey <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=4440&lang=en&db=imdb&adm=8&dis=2>

2 How many cigarettes are sold in Canada?

Data on wholesale shipments from Health Canada have not been consistently communicated.

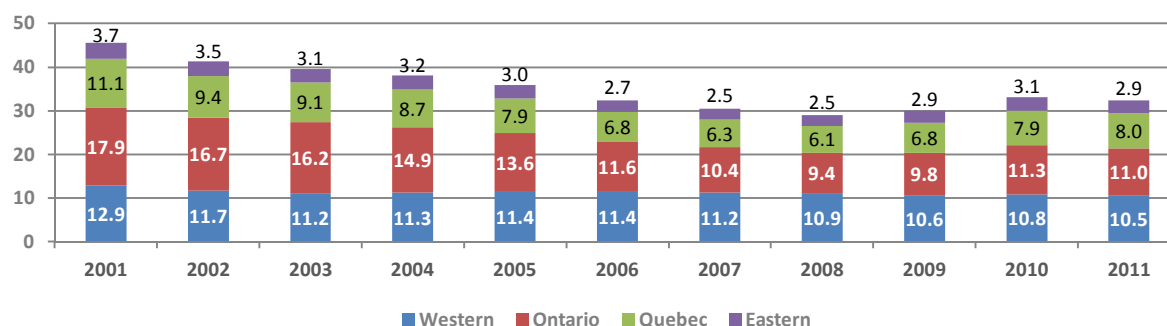
Tobacco companies are required to report to Health Canada the number of cigarettes or the volume of manufactured tobacco (most of which is used as ‘tobacco sticks’ or roll-your-own tobacco).⁴ The aggregate volume reported is available on Health Canada’s web-site for each province and territory.⁵ While these shipment reports can be used as a measurement of legal sales in Canada, there are a number of data limitations:

- The cigarettes smoked by Canadians are sometimes sold as ‘roll your own’ or ‘tobacco sticks’ which are commonly referred to as ‘cigarette equivalents’. Industry reports for these forms of cigarettes are provided in weight of manufactured tobacco shipped, unlike cigarettes which are reported in number shipped.

In order to produce the total amount of cigarettes smoked, it is necessary to convert the weight of manufactured tobacco into number of cigarette equivalents. Until the summer of 2011, Health Canada made the conversion before the quantities were published on its web-site. By September of 2011, Health Canada had changed its practice and had modified the reports of shipments of manufactured tobacco. A comparison of these reports, found in Appendix Table 2b, shows some inconsistencies in the reporting.

- We have chosen to convert manufactured tobacco to cigarette equivalents using the weight of 0.7 grams of tobacco per cigarette equivalents.
- Because the data provided by the companies is based on wholesale shipments, and not final destination, there may be some under or over-reporting in provinces where cigarettes are distributed to retailers from an out of province wholesaler. We have chosen to group the data by region, to address this.
- A further complication in interpreting wholesale shipments by region over the past decade was the decision by BAT/Imperial Tobacco to change its wholesaling practices and to cease manufacturing in Canada. We do not know how much this may have changed the regional wholesale shipments as reported to Health Canada.
- Shipments may not occur in the same year as sale or use (although this might make no difference if the pattern of year end shipments remains stable over time, as over-reporting one part of a period will be compensated for by under-reporting in a later part).

Figure 2a: Volume of tax-paid cigarettes and equivalents legally shipped to Canadian wholesalers, 2001-2011. (billions)



4 Tobacco Reporting Regulations (SOR/2000-273)
<http://laws.justice.gc.ca/eng/regulations/SOR-2000-273/page-6.html#h-14>

5 Health Canada. Wholesale Sales Data . <http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/indust/sales-ventes-eng.php>

3 Both smoking rates and tobacco sales have declined

The decline in cigarette sales since 2000 exceeds the decline in number of smokers.

Over the past decade, the number of smokers as measured by both CCHS and CTUMS surveys has declined by about 700,000 people (representing an 13% decline in the number of smokers by CCHS estimate and a 20% decline in CTUMS estimates). During the same period, the quantity of tobacco reported shipped to Health Canada sold in Canada declined by 14.6 billion units (representing 32% decline in volume sales). That is to say, the drop in reported tobacco sales has been much larger than the drop in the number of smokers.

The extent to which the drop in sales exceeded the drop in the number of smokers can be illustrated in two ways. The first is a visual comparison of the change in smoking rates with the change in legal sales, as shown in Figure 3a. (Regional smoking rates and sales are illustrated in the Appendix, Section 3).

Another way to illustrate the change is to compute the number of cigarettes shipped for each smoker. Using both CCHS and CTUMS estimates for the number of smokers, the changing number of cigarettes shipped per smoker is shown in Figure 3b and Figure 3c. Data on which these figures are based are shown on tables in Appendix, Section 3.

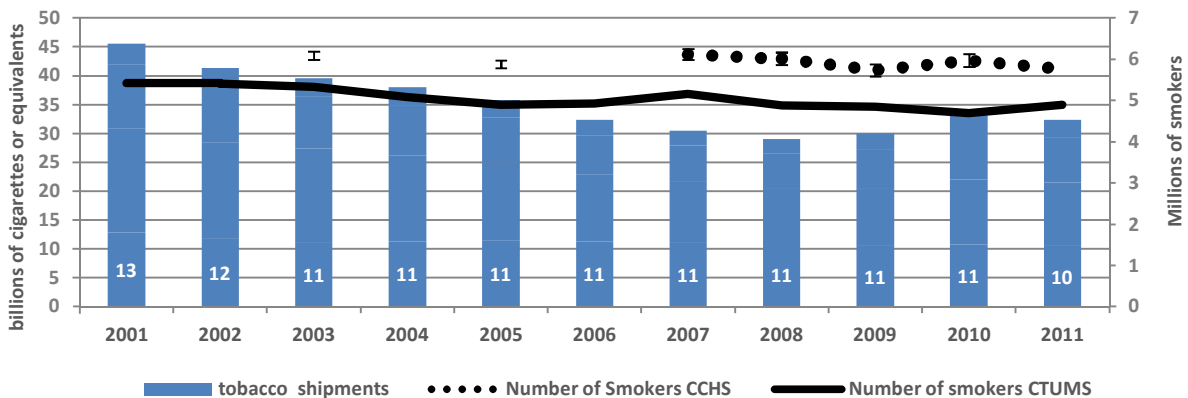
The overall decrease in the number of cigarettes legally sold per smoker between 2000 and 2011 is 1,378 (based on CCHS estimates of the number of smokers) and 1,356 (based on CTUMS estimates of the number of smokers).⁶ This would be the same as if each smoker purchased one less package of 25 cigarettes every 10 days. The smallest decline is in the Eastern region (which saw an increase in sales per smoker by 1 cigarette per day), and the highest in Ontario, which saw a 5 cigarette per day decline.

Making the same calculation on CTUMS data yields similar results: about 888 fewer cigarettes per smoker per year. This would be the same as if each smoker smoked 4 fewer cigarettes per day.

The smallest decline is in the Eastern region (160 cigarettes per person) and the largest is in Ontario, which saw a 7 cigarette per day decrease.

Some of this decline may reflect the fact that smokers do not smoke as many cigarettes in a day as they once did. Environmental changes since 2001 which may have reduced the number of cigarettes smoked per person include tax increases, bans on smoking in public places and workplaces, and changes to household restrictions on smoking.

Figure 3a: Number of smokers and volume of tobacco shipments, 2001-2011.



6 For 2000-2001, in which CCHS data was collected over a two-year period, the average yearly consumption per smoker was calculated as follows $\{[(\text{total year 1 sales})+(\text{total year 2 sales})/2]/\text{number of smokers for the biennial period}\}$

Figure 3b: Number of cigarettes legally sold per smoker, 2000 to 2011, CCHS

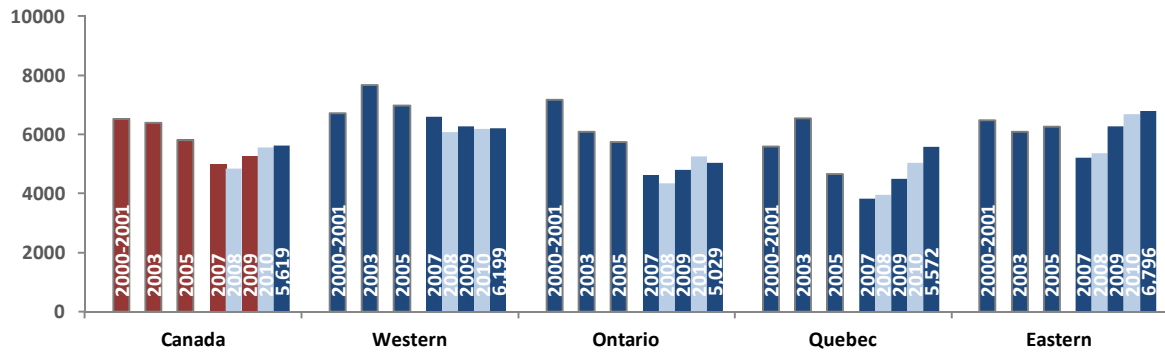
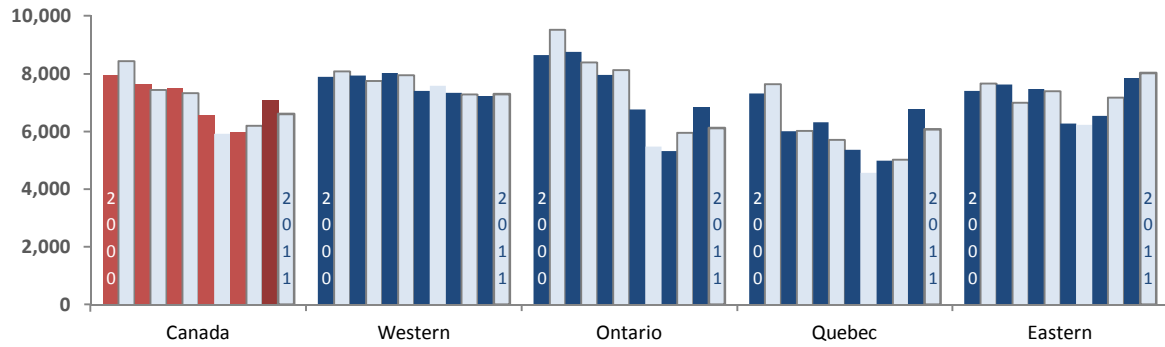


Figure 3c: Number of cigarettes legally sold per smoker, 2000-2011, CTUMS



4. How many cigarettes do Canadian smokers buy in a typical year?

Without reliable measurements of actual consumption, we must rely on sales data from years when illicit trade was considered minimal.

We do not know of any studies which report the actual number of cigarettes smoked by a typical Canadian smoker.

Although the CTUMS survey asks smokers about the quantity of cigarettes they smoke, these self-reports are not a reliable indicator of actual consumption. It has long been established that when responding to smoking surveys, smokers underreport their cigarette consumption, and by as much as 40%.^{7 8}

During progressive cycles of CTUMS, smokers have reported a decline in the number of cigarettes they say they smoke. The average number of cigarettes reported smoked by daily smokers per day was 16.8 in 2000 and 14.4 in 2011, a decrease of 14%. This reduction could reflect actual changes in consumption, or it could merely reflect increases in under-reporting of actual consumption resulting, for example, from personal embarrassment and harsher social attitudes about tobacco use.

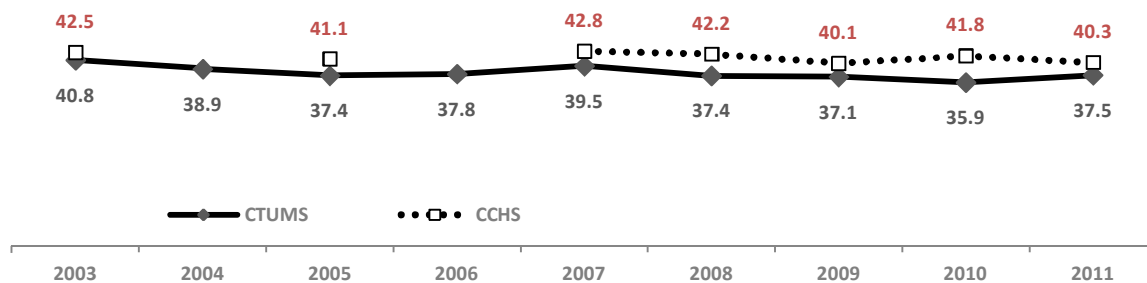
We can expect that the actual number of cigarettes purchased or smoked by Canadian smokers may have decreased since 2000 as a result of many factors. These include (a) increased smoking bans in public places, like bars and restaurants), (b) increased number of smoke-free homes, (c) tax increases during this period and (d) an increased proportion of smokers who are not daily smokers.

Attributing all of the difference between the decline in legal tobacco sales and the decline in the number of smokers to the contraband market would thus give us an UPPER estimate of illicit trade, as it would not account for plausible reductions in actual smoker consumption.

To produce this upper estimates of the increase in illicit trade, we calculate the number of cigarettes that we expect would be sold in each region for each year after 2002 if the per smoker rate of sales remained the same as it was in 2000-2001. Based on CCHS data, this is 6,997 cigarettes per year, and based on CTUMS it is 7,654 cigarettes per year.

This result is shown in Figure 4 and the data is shown in Appendix Tables 4a and 4b.

Figure 4: Estimated actual consumption of cigarettes (and equivalents) based on CCHS and CTUMS smoker populations and average consumption in 2000-2001. (billions of cigarettes).



7 Collishaw N. Cigarette consumption in Canada, 1981-1986. Notes for a presentation to the sixth world conference on smoking and health. Tokyo, Japan, 1987. <http://legacy.library.ucsf.edu/tid/kbk70g00>

8 Jackson R, Beaglehole R Secular trends in underreporting of cigarette consumption. Am J Epidemiol. 1985 Aug;122(2):341-4.

5 Estimating illicit tobacco market in Canada, 2002-2011.

Diverging trends in CTUMS and CCHS measurements of smoking rates produce significant differences in estimated illicit market for 2011.

We compare the difference between the number of cigarettes that smokers are expected to consume (shown in Figure 4) and the number of cigarettes legally sold (shown in Figure 3a) in Figure 5a.

If we attribute the entirety of this difference to the illicit market, the estimated size of this market using both CTUMS and CCHS estimates of the number of smokers is shown in Figure 5b. As mentioned earlier, this estimate does not take into account any reductions in tobacco use that might be expected from tax increases, smoking bans and other factors. Data using CCHS estimates of smoker population is only shown for years in which annual data is provided (i.e. 2007 and later).

Regional estimates are also provided, as shown in Figure 5c and Appendix Tables 5a, 5b and 5c. Regional data is shown to illustrate some of the limitations of this approach to estimating illicit tobacco use: in some provinces, illicit trade is “negative” (suggesting that the region received more shipments of tobacco per smoker than in 2002). This could be the result of errors in estimates of the number of smokers, changes in wholesale shipment patterns, errors in reports of wholesale shipments, or a combination of these and other factors. We recommend against using regional data produced by this method for any purpose other than comparison of methodologies.

Figure 5a: Estimated actual consumption of cigarettes (and equivalents) based on CCHS and CTUMS smoker populations and legal sales, 2003-2011 (billions of cigarettes).

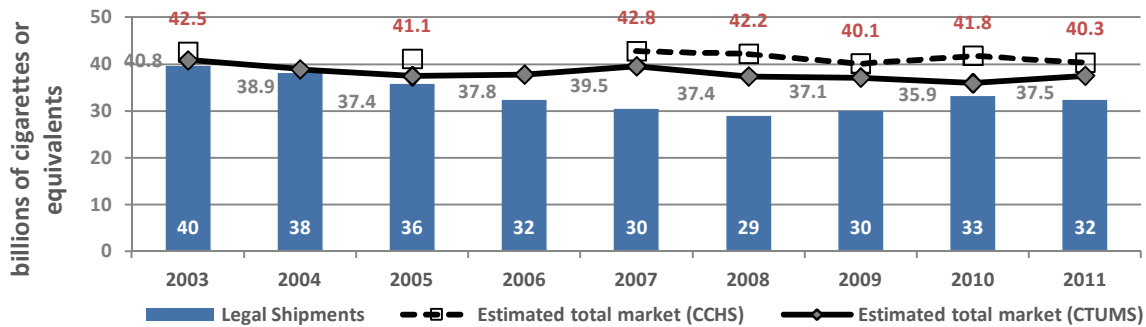


Figure 5b: Estimated illicit market for cigarettes in Canada, based on CCHS or CTUMS.

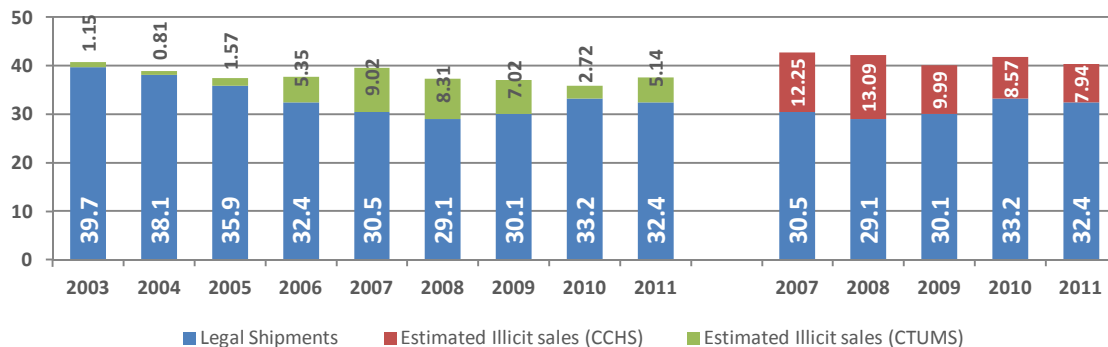
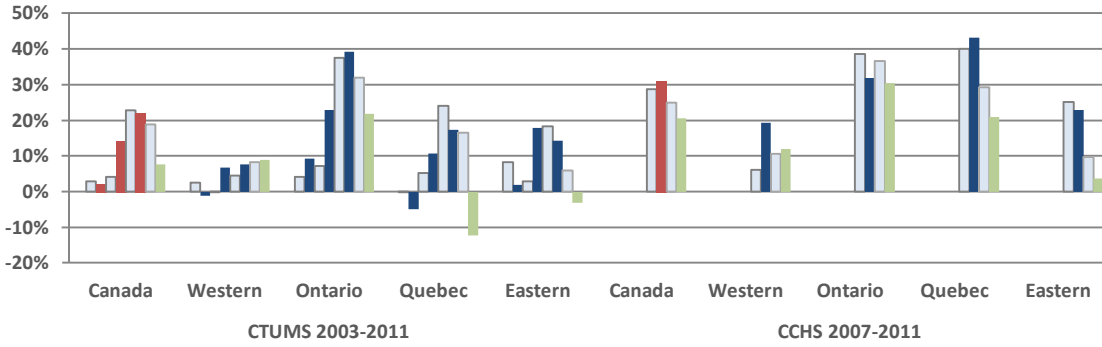


Figure 5c: Market share of illicit tobacco, CTUMS (2003-2011) and CCHS (2007-2011).



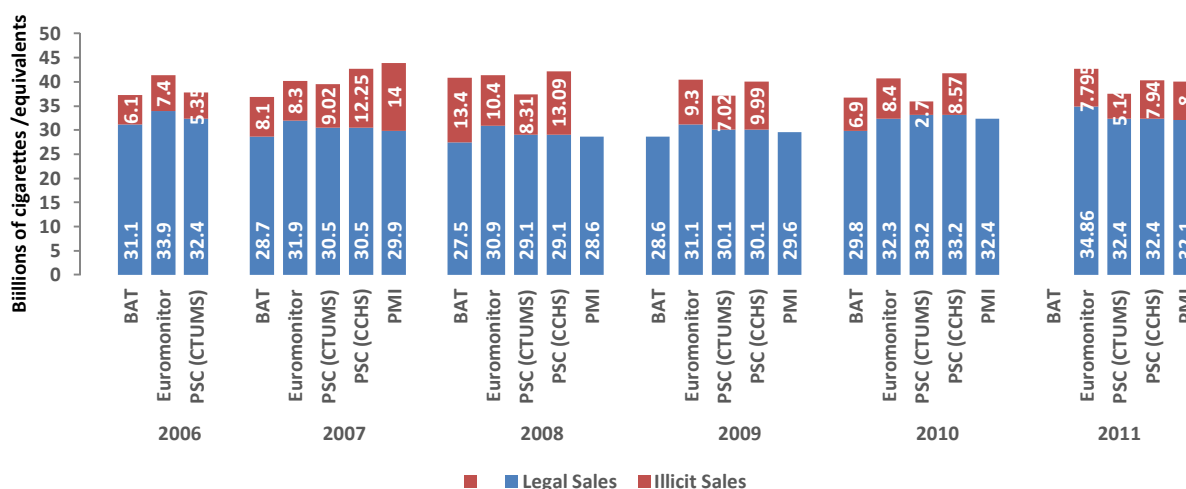
6 Comparison with other estimates of illicit sales in Canada.

Although government authorities have not made public any estimates of the volume of illicit cigarettes sold in Canada, British American Tobacco (BAT) has reported its estimates for selected years to shareholders.⁹ ¹⁰ Another estimate of illicit sales is provided by the commercial market analyst, Euromonitor.¹¹ Philip Morris has provided market analysts with its estimate of the legal market in Canada,¹² as well as estimates of illicit trade in 2007, 2008 and 2011. These estimates, together with those detailed in this report and in our previous study, are shown in Figure 6a and Table 6a. Although both BAT and Philip Morris report information on the same financial year end, their estimates of legal sales vary considerably for 2010.

BAT based its estimates on a smoker survey conducted by GfK Research Dynamics over a couple of weeks in each of the summers of 2006, 2007 and 2008. (Imperial Tobacco Canada Ltd makes reference to a 2010 study in its pre-budget submission to the House of Commons Finance Committee, but has not made this study public.¹³) That is to say, the GfK studies reflect a snapshot taken during a couple of summer months, and do not necessarily reflect annualized consumption.

We do not know what methods were used by the other companies, nor by Euromonitor.

Table 6a: Estimates of legal and illicit tobacco sales (billions of cigarettes).



9 British American Tobacco (BAT). Investor Presentation 2011. "Anti illicit trade: scale and opportunities. Neil Withington.

10 British American Tobacco (BAT). Investor Presentation 2011. "Managing the challenges in the Americas." Mark Cobden

11 Euromonitor. Tobacco in Canada. July 2011

12 Philip Morris International Inc. (PMI) Investor Presentation at the 2011 Morgan Stanley Global Consumer & Retail Conference

13 Letter from Penela Guy, Director of Government and Regulatory Affairs to the Clerk of the House of Commons Standing Committee on Finance, August 12, 2001.

Although estimates differ, they each show a pattern of rising volumes of contraband cigarettes between 2006 and 2008, and subsequently falling volumes. The differences between the two methods employed by PSC for 2011 can be explained by the different estimates produced by large national surveys of the number of smokers in Canada for that year.

Table 6a: Estimates of legal and illicit tobacco sales (billions of cigarettes).

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|-------|-------|-------|-------|-------|-------|-------|
| Euromonitor¹⁴ | | | | | | | |
| Legal market | 38.3 | 33.9 | 31.9 | 30.9 | 31.1 | 32.3 | 34.86 |
| Illicit Market | 7.2 | 7.4 | 8.3 | 10.4 | 9.3 | 8.4 | 7.8 |
| Total Market | 45.4 | 41.3 | 40.2 | 42.2 | 40.5 | 40.8 | 42.7 |
| Illicit as Percentage of Total | 15.8% | 17.9% | 20.5% | 25.1% | 23.0% | 20.7% | 18.3% |
| BAT^{15,16} | | | | | | | |
| Legal market | 33.4 | 31.1 | 28.7 | 27.5 | 28.6 | 29.8 | |
| Illicit Market (calculated) | | 6.1 | 8.1 | 13.4 | | 6.9 | |
| Total Market (calculated) | | 37.2 | 36.8 | 40.9 | | 36.7 | |
| Illicit as Percentage of Total | | 16.5% | 22% | 32.7% | | 18.7% | |
| Philip Morris International^{17, 18} | | | | | | | |
| Legal market | | | 29.9 | 28.6 | 29.6 | 32.4 | 32.1 |
| Illicit trade volume | | | 14 | | | | 8 |
| Total market (calculated) | | | 42.3 | | | | 40.1 |
| GfK^{19, 20, 21} | | | | | | | |
| Illicit as Percentage of Total | | 16.5% | 22% | 32.7% | | | |
| PSC 2012 (CCHS) | | | | | | | |
| Legal market | 35.9 | 32.4 | 30.5 | 29.0 | 30.1 | 33.2 | 32.4 |
| Illicit Market (CCHS) | | | 12.3 | 13 | 10 | 8.5 | 7.9 |
| Total Market (CCHS) | | | 42.8 | 42.2 | 40 | 41.8 | 40.4 |
| Illicit as Percentage of Total | | | 28.6% | 31.1% | 24.9% | 20.5% | 19.7% |
| PSC 2011 (CTUMS) | | | | | | | |
| Legal market | 35.9 | 32.4 | 30.5 | 29.0 | 30.1 | 33.2 | 32.4 |
| Illicit Market (CTUMS) | 1.57 | 5.35 | 9.02 | 8.31 | 7.02 | 2.72 | 5.14 |
| Total Market (CTUMS) | 37.4 | 37.8 | 39.5 | 37.4 | 37.1 | 35.9 | 37.5 |
| Illicit as Percentage of Total | 4.2% | 14.2% | 22.8% | 22.2% | 18.9% | 7.6% | 13.7% |

14 Euromonitor. Tobacco in Canada. July 2011

15 British American Tobacco (BAT). Investor Presentation 2011. "Anti illicit trade: scale and opportunities. Neil Withington.

16 British American Tobacco (BAT). Investor Presentation 2011. "Managing the challenges in the Americas." Mark Cobden

17 Philip Morris International Inc. (PMI) Investor Presentation at the 2011 Morgan Stanley Global Consumer & Retail Conference

18 Philip Morris International Incl (PMI). Investor Presentation at the 2012 Investor Day. Latin America and Caribbean region.

19 GfK Research Dynamics. Tobacco Product Illicit Trade Phenomena. National Study for Imperial Tobacco Canada, 2006.

20 GfK Research Dynamics. National Study for the Canadian Tobacco Manufacturers' Council, 2007.

21 GfK Research Dynamics. Illicit Usage of Cigarettes in Canada. 2008 Study – Summary of results

Appendix. Section 1 Tables

Table 1a: Canadian Community Health Survey: Current Smokers (daily and occasional) (12 years or older), 2002-2010

| | 2000-2001 | 2003 | 2005 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Canada | 6,677,856 | 6,080,504 | 5,874,689 | 6,112,442 | 6,009,311 | 5,730,321 | 5,967,259 | 5,764,843 |
| Western | 1,834,777 | 1,651,509 | 1,628,631 | 1,706,780 | 1,793,302 | 1,686,512 | 1,742,250 | 1,691,003 |
| Ontario | 2,417,474 | 2,271,303 | 2,186,991 | 2,242,443 | 2,172,468 | 2,055,964 | 2,161,455 | 2,181,592 |
| Quebec | 1,835,890 | 1,646,853 | 1,577,008 | 1,650,863 | 1,542,295 | 1,499,501 | 1,570,677 | 1,428,422 |
| Eastern | 555,412 | 487,620 | 453,413 | 480,837 | 472,539 | 456,764 | 460,673 | 432,597 |
| Northern | 34,302 | 27,840 | 28,648 | 31,519 | 28,706 | 31,578 | 32,204 | 31,229 |

Table 1b: Canadian Tobacco Use Monitoring Survey : Current Smokers (daily and occasional) (15 years or older), 2002-2010

| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Canada | 6,121,992 | 6,007,562 | 5,411,822 | 5,414,334 | 5,332,325 | 5,079,767 | 4,889,511 | 4,934,022 | 5,165,376 | 4,883,408 | 4,851,274 | 4,691,698 | 4,904,031 |
| Western | 1,659,820 | 1,628,732 | 1,595,660 | 1,477,218 | 1,445,721 | 1,406,672 | 1,431,386 | 1,532,908 | 1,484,123 | 1,489,149 | 1,453,222 | 1,488,812 | 1,436,560 |
| Ontario | 2,132,248 | 2,152,460 | 1,878,927 | 1,911,472 | 1,932,375 | 1,871,234 | 1,668,588 | 1,710,132 | 1,899,352 | 1,775,449 | 1,652,955 | 1,656,344 | 1,792,837 |
| Quebec | 1,797,454 | 1,686,002 | 1,452,020 | 1,569,231 | 1,507,286 | 1,373,482 | 1,380,998 | 1,266,300 | 1,380,988 | 1,226,686 | 1,345,325 | 1,174,088 | 1,311,750 |
| Eastern | 532,470 | 540,368 | 485,215 | 456,413 | 446,943 | 428,379 | 408,539 | 424,521 | 402,068 | 387,777 | 399,772 | 392,356 | 366,533 |

Table 1c: Comparison of CTUMS and CCHS survey results

| | Canadian Tobacco Use Monitoring Survey (CTUMS) | | | Canadian Community Health Survey (CCHS) | | | Difference | |
|------|---|---------------------------------|----------------------|--|---------------------------------|----------------------|------------|-----|
| | Number of Smoker# | Prevalence (% of population) | Prevalence 95% CI | Number of Smoker# | Prevalence (% of population) | Prevalence 95% CI | Smokers | % |
| 1999 | 6,121,992 | 25 | | | | | | |
| 2000 | 6,007,562 | 24 | | | | | | |
| 2001 | 5,411,822 | 22 | | 6,677,856 | 26 | 25.5-26.4 | 1,266,034 | 3.9 |
| 2002 | 5,414,335 | 21 | | | | | | |
| 2003 | 5,332,326 | 21 | 20.0-21.8 | 6,080,504 | 23 | 22.7-23.4 | 748,178 | 2 |
| 2004 | 5,116,200 | 20 | 18.5- 0.7 | | | | | |
| 2005 | 4,966,600 | 19 | 17.6-19.8 | 5,874,689 | 22 | 21.4-22.1 | 908,089 | 2.8 |
| 2006 | 4,934,022 | 19 | 17.6-19.6 | | | | | |
| 2007 | 5,176,302 | 19 | 18.2-20.2 | 6,112,442 | 22 | 21.6-22.5 | 936,140 | 3 |
| 2008 | 4,880,488 | 18 | 16.8-18.9 | 6,009,311 | 21 | 20.9-21.9 | 1,128,823 | 3.4 |
| 2009 | 4,851,274 | 18 | 16.5-18.6 | 5,730,321 | 20 | 19.6-20.7 | 879,047 | 2.1 |
| 2010 | 4,701,868 | 17 | 15.8-17.7 | 5,967,259 | 21 | 20.2-21.3 | 1,265,391 | 3.8 |

Section 2 Tables

Table 2a: Wholesale shipments of cigarettes (and equivalents) reported by Health Canada in November 2011. manufactured cigarettes by region

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| Canada | 43,368,194,700 | 42,087,329,210 | 37,627,491,460 | 35,817,932,599 | 34,578,918,606 | 32,970,621,643 |
| Western | 11,133,511,510 | 11,293,841,010 | 10,028,605,715 | 9,492,386,290 | 9,717,146,730 | 9,993,256,160 |
| Ontario | 18,278,940,725 | 17,598,138,995 | 16,372,785,308 | 15,795,140,720 | 14,508,332,095 | 13,286,771,635 |
| Quebec | 10,773,898,165 | 10,180,595,425 | 8,565,926,517 | 8,249,668,825 | 7,969,737,387 | 7,354,135,758 |
| Eastern | 3,158,240,100 | 2,973,494,580 | 2,619,754,120 | 2,246,415,964 | 2,353,536,994 | 2,315,260,090 |
| Northern | 23,604,200 | 41,259,200 | 40,419,800 | 34,320,800 | 30,165,400 | 21,198,000 |

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| Canada | 30,217,191,194 | 28,704,713,382 | 27,559,382,153 | 28,627,507,225 | 31,653,615,884 | 31,066,986,500 |
| Western | 10,206,857,760 | 10,261,387,635 | 10,087,799,120 | 9,840,480,425 | 10,076,104,381 | 9,849,910,987 |
| Ontario | 11,387,451,604 | 10,257,094,051 | 9,346,911,683 | 9,740,694,100 | 11,214,816,300 | 10,894,112,550 |
| Quebec | 6,435,125,676 | 6,013,404,856 | 5,869,091,250 | 6,504,503,120 | 7,620,380,333 | 7,690,894,123 |
| Eastern | 2,155,933,834 | 2,118,102,565 | 2,199,505,785 | 2,492,429,455 | 2,682,691,590 | 2,590,599,245 |
| Northern | 31,822,320 | 54,724,275 | 56,074,315 | 49,400,125 | 59,623,275 | 41,469,595 |

Kilograms of fine-cut tobacco by region

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| Canada | 3,121,260 | 2,473,977 | 2,667,814 | 2,689,523 | 2,440,747 | 2,020,078 | 1,533,444 | 1,269,297 | 1,056,507 | 1,034,284 | 1,072,112 | 928,886 |
| Western | 1,200,340 | 1,122,622 | 1,185,781 | 1,189,117 | 1,094,813 | 963,745 | 800,328 | 686,456 | 577,930 | 512,674 | 476,638 | 442,688 |
| Ontario | 239,226 | 192,635 | 260,172 | 294,297 | 255,243 | 188,372 | 116,108 | 92,595 | 69,620 | 74,767 | 91,677 | 54,003 |
| Quebec | 1,085,674 | 632,306 | 614,256 | 584,466 | 489,177 | 366,219 | 257,656 | 209,865 | 166,608 | 176,395 | 214,796 | 187,793 |
| Eastern | 593,421 | 522,533 | 602,837 | 615,401 | 595,639 | 496,207 | 352,558 | 270,966 | 234,082 | 262,509 | 280,293 | 244,401 |
| Northern | 2,600 | 3,880 | 4,768 | 6,243 | 5,875 | 5,535 | 6,795 | 9,414 | 8,269 | 7,941 | 9,058 | 6,800 |

Shipments of manufactured cigarettes and 'equivalents' (where a fine-cut cigarette is estimated to weigh .7 grams) by province.

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| Canada | 47,827,137,557 | 45,621,582,067 | 41,438,654,317 | 39,660,108,313 | 38,065,700,035 | 35,856,447,357 |
| Western | 12,848,282,939 | 12,897,586,724 | 11,722,578,572 | 11,191,124,861 | 11,281,165,301 | 11,370,034,731 |
| Ontario | 18,620,692,154 | 17,873,331,852 | 16,744,459,594 | 16,215,565,006 | 14,872,964,952 | 13,555,874,492 |
| Quebec | 12,324,861,022 | 11,083,889,711 | 9,443,435,088 | 9,084,620,254 | 8,668,561,673 | 7,877,305,758 |
| Eastern | 4,005,984,386 | 3,719,970,294 | 3,480,949,834 | 3,125,560,250 | 3,204,449,851 | 3,024,127,233 |
| Northern | 27,318,486 | 46,802,057 | 47,231,229 | 43,239,371 | 38,558,257 | 29,105,143 |

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2010 |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| Canada | 32,407,825,480 | 30,517,994,811 | 29,068,677,867 | 30,105,055,796 | 33,185,204,455 | 32,393,966,500 |
| Western | 11,350,183,474 | 11,242,039,064 | 10,913,413,406 | 10,572,871,854 | 10,757,015,810 | 10,482,322,416 |
| Ontario | 11,553,320,175 | 10,389,372,622 | 9,446,368,826 | 9,847,504,100 | 11,345,783,443 | 10,971,259,693 |
| Quebec | 6,803,205,676 | 6,313,211,999 | 6,107,102,679 | 6,756,495,977 | 7,927,231,762 | 7,959,169,837 |
| Eastern | 2,659,588,120 | 2,505,196,851 | 2,533,908,642 | 2,867,442,312 | 3,083,110,161 | 2,939,743,531 |
| Northern | 41,529,463 | 68,172,846 | 67,887,172 | 60,744,411 | 72,563,275 | 51,183,881 |

Section 3 Tables

Figure 3b: Western Provinces
Number of smokers and volume of tobacco shipments, 2001-2011.

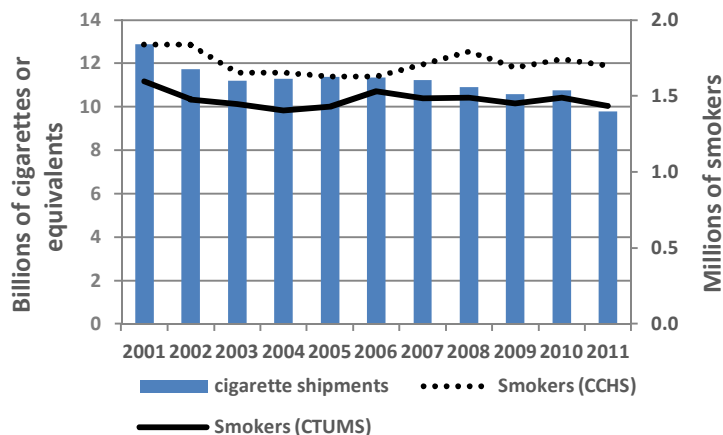


Figure 3d Quebec
Number of smokers and volume of tobacco shipments, 2001-2011.

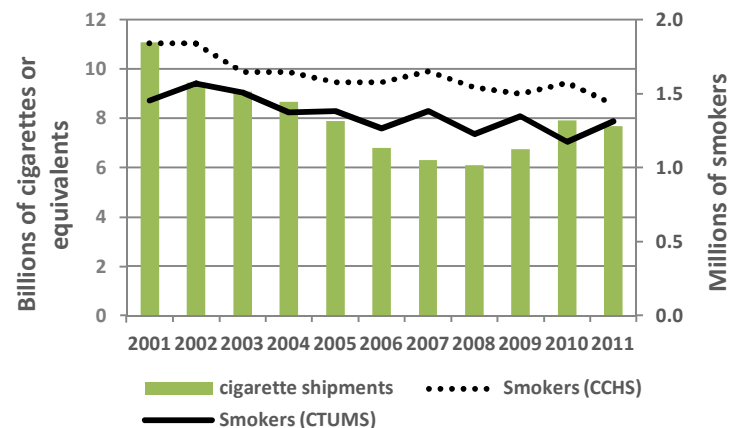


Figure 3c: Ontario
Number of smokers and volume of tobacco shipments, 2001-2011.

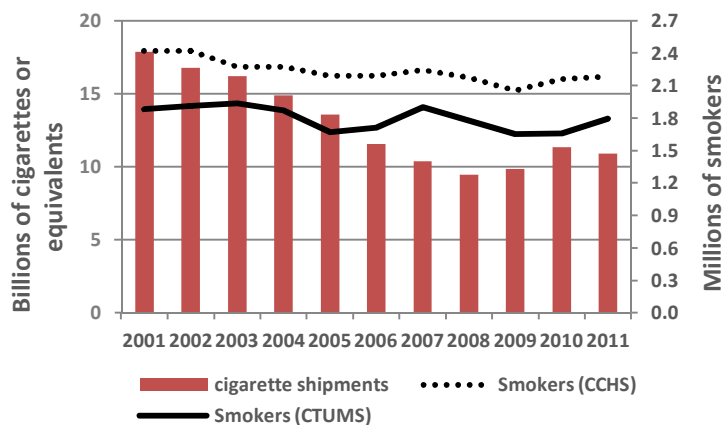


Figure 3e: Eastern Provinces
Number of smokers and volume of tobacco shipments, 2001-2011.

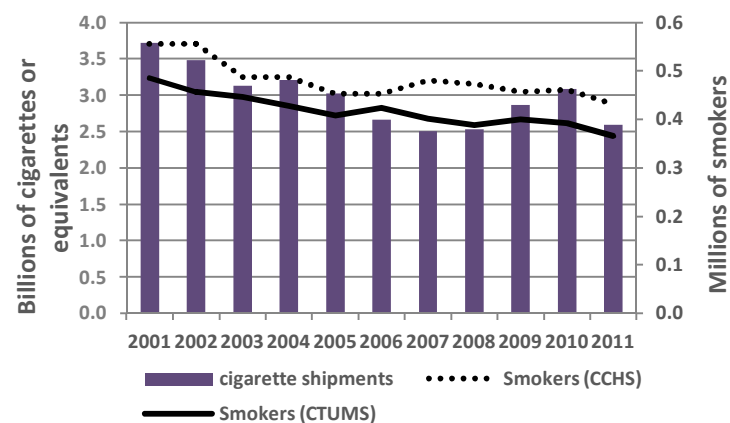


Table 3a. Cigarette shipments per smoker, CCHS .

| | 2001-2 | 2003 | 2005 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------|--------|-------|-------|-------|-------|-------|-------|-------|
| Canada | 6,519 | 6,669 | 5,810 | 4,993 | 4,837 | 5,254 | 5,561 | 5,619 |
| Western | 7,016 | 6,937 | 6,975 | 6,587 | 6,086 | 6,269 | 6,174 | 6,199 |
| Ontario | 7,548 | 7,256 | 5,741 | 4,633 | 4,348 | 4,790 | 5,249 | 5,029 |
| Quebec | 6,375 | 5,625 | 4,655 | 3,824 | 3,960 | 4,506 | 5,047 | 5,572 |
| Eastern | 6,955 | 6,774 | 6,268 | 5,210 | 5,362 | 6,278 | 6,693 | 6,796 |
| Northern | 1,080 | 1,625 | 1,233 | 2,163 | 2,365 | 1,924 | 2,253 | 1,639 |

Table 3b. Cigarette shipments per smoker, CTUMS .

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canada | 7,961 | 8,430 | 7,654 | 7,438 | 7,494 | 7,333 | 6,568 | 5,908 | 5,953 | 6,206 | 7,073 | 6,606 |
| Western | 7,889 | 8,083 | 7,936 | 7,741 | 8,020 | 7,943 | 7,404 | 7,575 | 7,329 | 7,275 | 7,225 | 7,297 |
| Ontario | 8,651 | 9,513 | 8,760 | 8,392 | 7,948 | 8,124 | 6,756 | 5,470 | 5,321 | 5,958 | 6,850 | 6,119 |
| Quebec | 7,310 | 7,633 | 6,018 | 6,027 | 6,311 | 5,704 | 5,373 | 4,572 | 4,979 | 5,022 | 6,752 | 6,068 |
| Eastern | 7,413 | 7,667 | 7,627 | 6,993 | 7,480 | 7,402 | 6,265 | 6,231 | 6,534 | 7,173 | 7,858 | 8,020 |

Section 4 Tables

**Table 4a: Estimates of actual cigarette consumption based on CCHS smoker population
(billions of cigarettes, except for average per smoker)**

| | Avg/smoker 2000-2001 | 2003 | 2005 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------------|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | 6,997 | 42.5 | 41.1 | 42.8 | 42.2 | 40.1 | 41.8 | 40.3 |
| Western | 7,016 | 11.6 | 11.4 | 12.0 | 13.5 | 11.8 | 12.2 | 11.9 |
| Ontario | 7,548 | 17.1 | 16.5 | 16.9 | 13.9 | 15.5 | 16.3 | 16.5 |
| Quebec | 6,375 | 10.5 | 10.1 | 10.5 | 10.7 | 9.6 | 10.0 | 9.1 |
| Eastern | 6,955 | 3.4 | 3.2 | 3.3 | 3.3 | 3.2 | 3.2 | 3.0 |

**Table 4b: Estimates of actual cigarette consumption based on CTUMS smoker population
(billions of cigarettes, except for average per smoker)**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | 7,654 | 40.81100 | 38.87804 | 37.42192 | 37.76258 | 39.53325 | 37.37521 | 37.12927 | 35.90795 | 37.53305 |
| Western | 7,936 | 11.47263 | 11.16276 | 11.35888 | 12.16451 | 11.77737 | 11.81727 | 11.53216 | 11.81458 | 11.39993 |
| Ontario | 8,760 | 16.92757 | 16.39198 | 14.61680 | 14.98072 | 16.63829 | 15.55290 | 14.47986 | 14.50954 | 15.70522 |
| Quebec | 6,018 | 9.07066 | 8.26544 | 8.31067 | 7.62043 | 8.31061 | 7.38204 | 8.09600 | 7.06551 | 7.89395 |
| Eastern | 7,627 | 3.40872 | 3.26714 | 3.11583 | 3.23772 | 3.06647 | 2.95749 | 3.04896 | 2.99240 | 2.79546 |

Section 5 Tables

Table 5a. Estimated number of cigarettes not accounted for by legal sales, based on CTUMS projections of actual consumption (billions of cigarettes)

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------|-------|-------|-------|------|------|------|------|-------|-------|
| Canada | 1.15 | 0.81 | 1.57 | 5.35 | 9.02 | 8.31 | 7.02 | 2.72 | 5.14 |
| Western | 0.28 | -0.12 | -0.01 | 0.81 | 0.54 | 0.90 | 0.96 | 1.06 | 0.92 |
| Ontario | 0.71 | 1.52 | 1.06 | 3.43 | 6.25 | 6.11 | 4.63 | 3.16 | 4.73 |
| Quebec | -0.01 | -0.40 | 0.43 | 0.82 | 2.00 | 1.27 | 1.34 | -0.86 | -0.07 |
| Eastern | 0.28 | 0.06 | 0.09 | 0.58 | 0.56 | 0.42 | 0.18 | -0.09 | -0.14 |

Table 5b. Estimated percentage of total cigarette sales that are contraband, based on CTUMS projections

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| Canada | 2.8% | 2.1% | 4.2% | 14.2% | 22.8% | 22.2% | 18.9% | 7.6% | 13.7% |
| Western | 2.5% | -1.1% | -0.1% | 6.7% | 4.5% | 7.6% | 8.3% | 9.0% | 8.0% |
| Ontario | 4.2% | 9.3% | 7.3% | 22.9% | 37.6% | 39.3% | 32.0% | 21.8% | 30.1% |
| Quebec | -0.2% | -4.9% | 5.2% | 10.7% | 24.0% | 17.3% | 16.5% | -12.2% | -0.8% |
| Eastern | 8.3% | 1.9% | 2.9% | 17.9% | 18.3% | 14.3% | 6.0% | -3.0% | -5.2% |

Source: Derived from smoking prevalence data (Canadian Tobacco Use Monitoring Survey) and wholesale shipments reported to Health Canada.

Table 5c. Estimated number of cigarettes not accounted for by legal sales, based on CCHS projections of actual consumption (billions of cigarettes)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------|-------|-------|------|------|------|-------|-------|-------|-------|-------|
| Canada | 12.25 | 13.09 | 9.99 | 8.57 | 7.94 | 28.6% | 31.1% | 24.9% | 20.5% | 19.7% |
| Western | 0.73 | 2.62 | 1.26 | 1.47 | 1.38 | 6.1% | 19.4% | 10.6% | 12.0% | 11.6% |
| Ontario | 6.54 | 4.40 | 5.67 | 4.97 | 5.50 | 38.6% | 31.8% | 36.5% | 30.5% | 33.4% |
| Quebec | 4.21 | 4.62 | 2.80 | 2.09 | 1.15 | 40.0% | 43.1% | 29.3% | 20.8% | 12.6% |
| Eastern | 0.84 | 0.75 | 0.31 | 0.12 | 0.07 | 25.1% | 22.9% | 9.7% | 3.8% | 2.3% |