

The Canadian Tobacco Market Place

Estimating the volume of Contraband Sales of Tobacco in Canada: 2006-2010

Updated and Revised –December 2011

Physicians *for a* Smoke-Free Canada

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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 discrepancies between it and the other large national survey, the Canadian Community Health Survey, are increasing.
- 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.
- Basing actual consumption 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.

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 2001-2001, but annual data has been provided since 2007. 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 2010 21% of Canadians smoked on a daily or occasional basis (5,967,259 people). (The 95% confidence interval puts the estimated smoking rate between 20.2% and 21.3% or 5,809,758 and 6,124,761 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 2010 17% of Canadians smoked on a daily or occasional basis (4,701,868 people). (The 95% confidence interval puts the estimated smoking rate between 15.8% and 17.7% or 4,369,971 to 4,895,474 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). In 2010, the gap between these two survey measures widened.

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

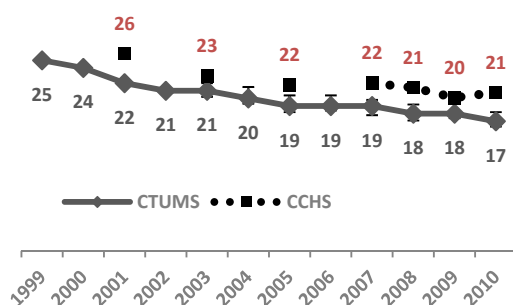
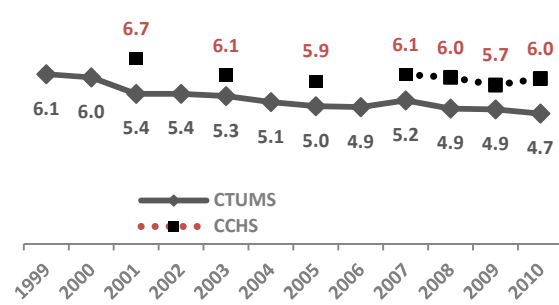


Figure 1b: Millions of smokers : Comparison of CTUMS and CCHS estimates



2 Statistics Canada. Canadian Community Health Survey - Annual Component (CCHS)
<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.

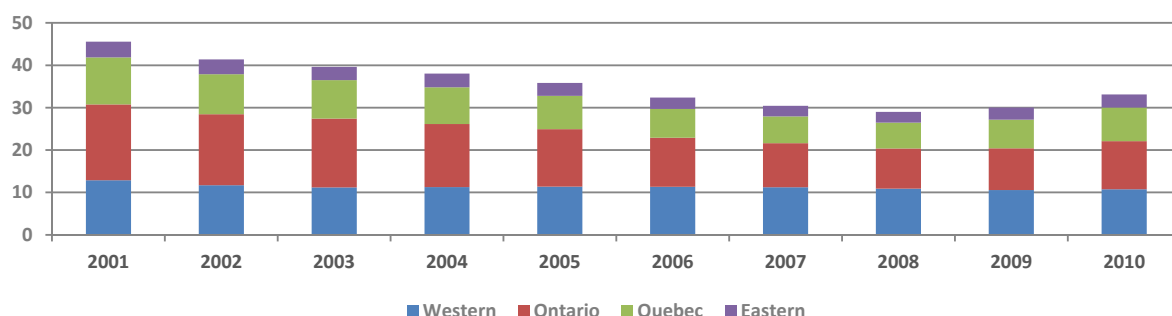
Tobacco companies are required to report to Health Canada the number of cigarettes or the volume of manufactured tobacco (most of which is used as 'tobacco sticks' or roll-your-own tobacco).⁴ The aggregate volume reported is available on Health Canada's web-site for each province and territory.⁵ While 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 cigarettes and equivalents shipped to Canadian wholesalers, 2001-2010. (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 11% decline in CCHS estimate and a 13% 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 31% decline in volume sales). That is to say, the drop in reported tobacco sales has been relatively three times greater 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, based on CCHS data, is 957 cigarettes per smoker per year (about 3 cigarettes per day per smoker).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 purchased one less pack of 25 cigarettes every 10 days. The smallest decline is in the Eastern region (which actually saw an increase in sales per smoker by 1 cigarette per day), and the largest is in Ontario, which saw a 5 cigarette per day decrease.

It may be that some of this decline reflects 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.

The regional figures, shown in the Appendix, reveal annual jumps and dips in CTUMS estimates for smokers in Quebec. These patterns of reported smoking may contribute to the unexpected results for estimates of contraband in that province that will be shown in Section 6.

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

Figure 3a: Number of smokers and volume of tobacco shipments, 2001-2010.

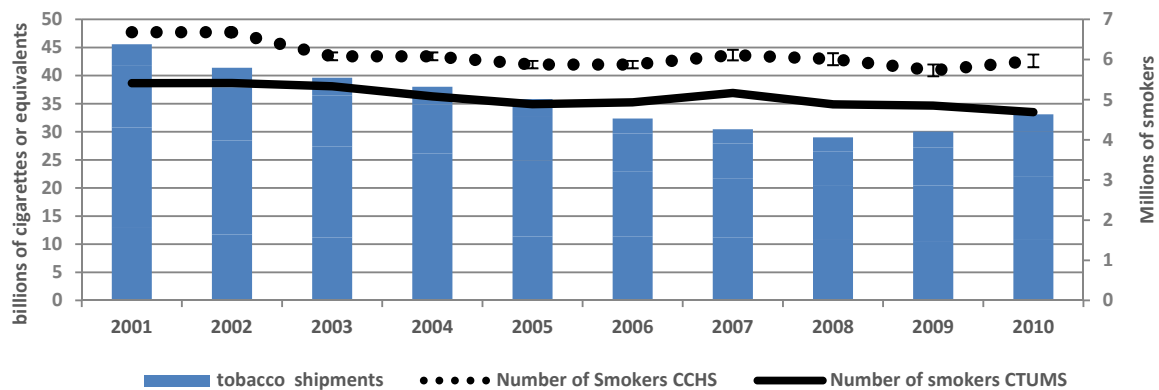


Figure 3b: Number of cigarettes legally sold per smoker, 2000-1 to 2010, CCHS

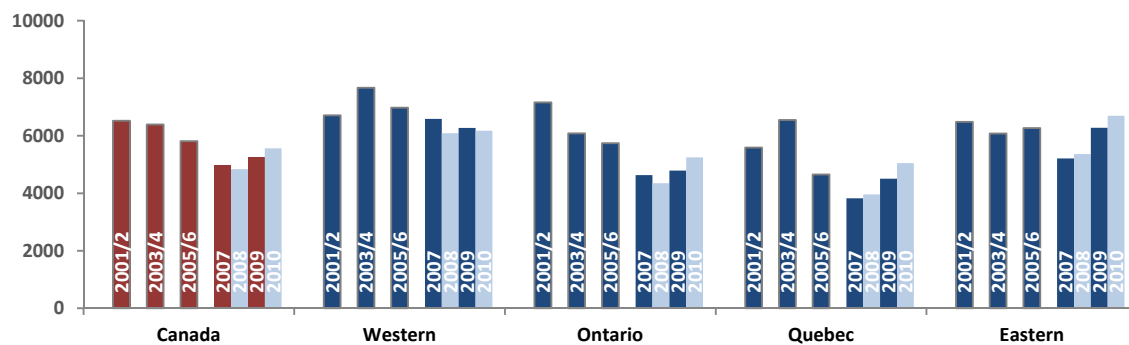
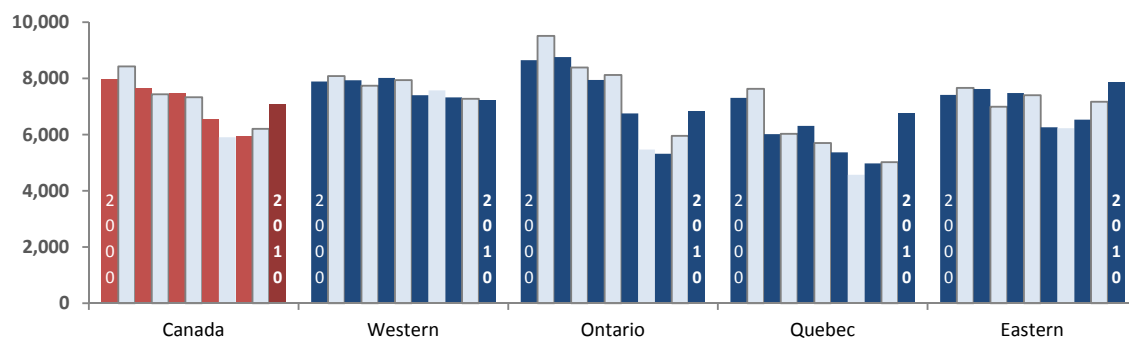


Figure 3c: Number of cigarettes legally sold per smoker, 2000-2010, CTUMS



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}

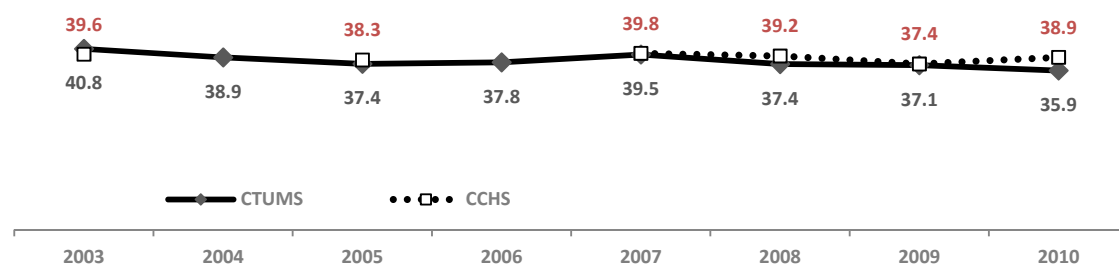
During progressive cycles of CTUMS, smokers have reported a decline in the number of cigarettes they say they smoke. The average number of cigarettes reported smoked by daily smokers per day was 16.8 in 2000 and 15.1 in 2010, a decrease of 10%. This reduction could reflect actual changes in consumption, 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 2002. This result is shown in Figure 4 and the data is shown in Appendix Tables 4a and 4b.

Figure 4a: 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, 2002-2010.

Diverging trends in CTUMS and CCHS measurements of smoking rates produce significant differences in estimated illicit market for 2010.

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, 2003-2010 (billions of cigarettes).

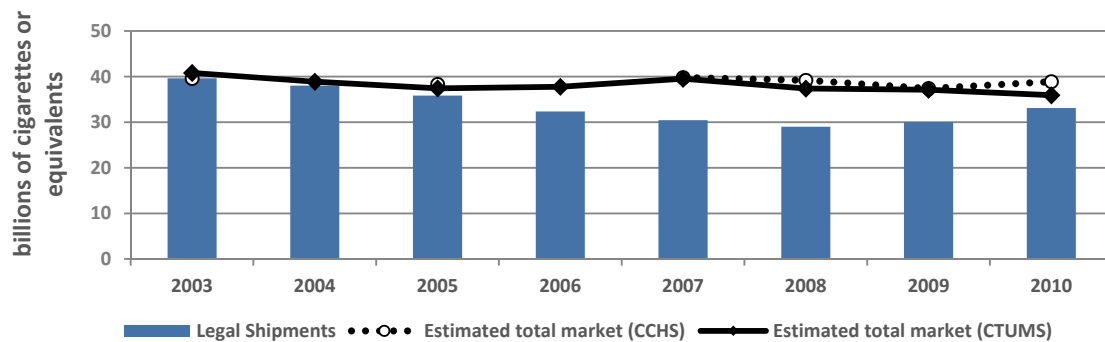


Figure 5b: Estimated illicit market for cigarettes in Canada, based on CCHS or CTUMS.

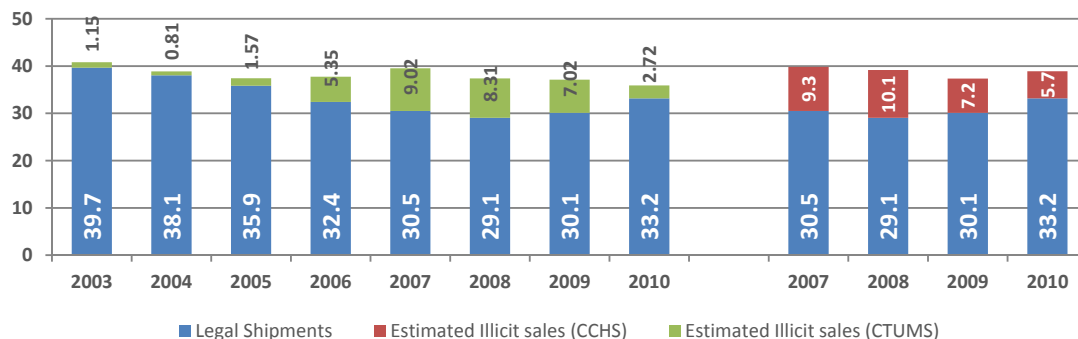
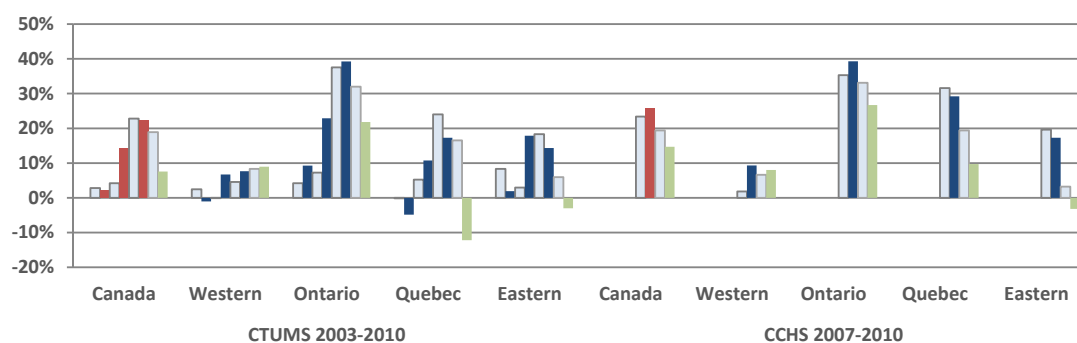


Figure 5c: Market share of illicit tobacco, CTUMS (2003-2010) and CCHS (2007-2010).



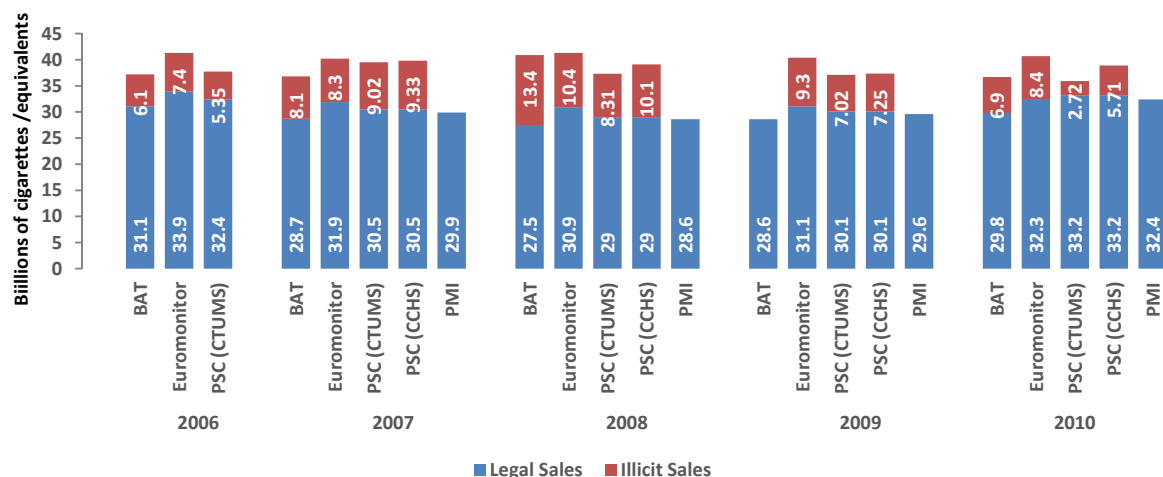
6 Comparison with other estimates of illicit sales in Canada.

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 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 2010 can be explained by the different estimates produced by large national surveys of the number of smokers in Canada for that year. The differences between the values found in our previous study and the current one reflect the restated wholesale shipment data provided by Health Canada, as discussed in Section 2.

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

	2005	2006	2007	2008	2009	2010
Euromonitor¹⁴						
Legal market	38.3	33.9	31.9	30.9	31.1	32.3
Illicit Market	7.2	7.4	8.3	10.4	9.3	8.4
Total Market	45.4	41.3	40.2	42.2	40.5	40.8
Illicit as Percentage of Total	15.8%	17.9%	20.5%	25.1%	23.0%	20.7%
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 International¹⁷						
Legal market			29.9	28.6	29.6	32.4
GfK^{18, 19, 20}						
Illicit as Percentage of Total		16.5%	22%	32.7%		
PSC 2011 (CCHS)						
Legal market	35.9	32.4	30.5	29.0	30.1	33.2
Illicit Market (CCHS)			9.33	10.10	7.25	5.71
Total Market (CCHS)			39.8	39.2	37.4	38.9
Illicit as Percentage of Total			23.4%	25.8%	19.4%	14.7%
PSC 2011 (CTUMS)						
Legal market	35.9	32.4	30.5	29.0	30.1	33.2
Illicit Market (CTUMS)	1.57	5.35	9.02	8.31	7.02	2.72
Total Market (CTUMS)	37.4	37.8	39.5	37.4	37.1	35.9
Illicit as Percentage of Total	4.2%	14.2%	22.8%	22.2%	18.9%	7.6%
PSC 2010						
Legal market	36.3	32.6	32.3	29.3	30.2	
Illicit Market (CCHS)	3.9	7.9	10.1	10.8	9.7	
Total Market (CCHS)	41.8	40.2	40.6	42.5	40.2	
Illicit as Percentage of Total	9%	20%	25%	26%	24%	

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

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

20 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) (15 years or older), 2002-2010

	2001-2		2003-4		2005-6		2007		2008		2009		2010	
Canada	6,677,856		6,080,504		5,874,689		6,112,442		6,009,311		5,730,321		5,967,259	
Western	1,834,777		1,651,509		1,628,631		1,706,780		1,793,302		1,686,512		1,742,250	
Ontario	2,417,474		2,271,303		2,186,991		2,242,443		2,172,468		2,055,964		2,161,455	
Quebec	1,835,890		1,646,853		1,577,008		1,650,863		1,542,295		1,499,501		1,570,677	
Eastern	555,412		487,620		453,413		480,837		472,539		456,764		460,673	
Northern	34,302		27,840		28,648		31,519		28,706		31,578		32,204	

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
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
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
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
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
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

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	2006	2007	2008	2009	2010
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	30,217,191,194	28,704,713,382	27,559,382,153	28,627,507,225	31,653,615,884
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	10,206,837,760	10,261,387,635	10,087,799,120	9,840,480,425	10,076,104,381
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	11,387,451,604	10,257,094,051	9,346,911,683	9,740,694,100	11,214,816,300
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	6,435,125,676	6,013,404,856	5,869,091,250	6,504,503,120	7,620,380,333
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	2,155,933,834	2,118,102,565	2,199,505,785	2,492,429,455	2,682,691,590
Northern	23,604,200	41,259,200	40,419,800	34,320,800	30,165,400	21,198,000	31,822,320	54,724,275	56,074,315	49,400,125	59,623,275

Kilograms of fine-cut tobacco by region

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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
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
Ontario	239,226	192,635	260,172	294,297	255,243	188,372	116,108	92,595	69,620	74,767	91,677
Quebec	1,085,674	632,306	614,256	584,466	489,177	366,219	257,556	209,865	166,608	176,395	214,796
Eastern	593,421	522,533	602,837	615,401	595,639	496,207	352,558	270,966	234,082	262,509	280,293
Northern	2,600	3,880	4,768	6,243	5,875	5,535	6,795	9,414	8,269	7,941	9,058

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	2006	2007	2008	2009	2010
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	32,407,825,480	30,517,994,811	29,068,677,867	30,105,055,796	33,185,204,455
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	11,350,183,474	11,242,039,064	10,913,413,406	10,572,871,854	10,757,015,810
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	11,553,320,175	10,389,372,622	9,446,368,826	9,847,504,100	11,345,783,443
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	6,803,205,676	6,313,211,999	6,107,102,679	6,756,495,977	7,927,231,762
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	2,659,588,120	2,505,196,851	2,533,908,642	2,867,442,312	3,083,110,161
Northern	27,318,486	46,802,057	47,231,229	43,239,371	38,558,257	29,105,143	41,529,463	68,172,846	67,887,172	60,744,411	72,563,275

Table 2b. Comparison with previously reported data from Health Canada

Shipments of manufactured cigarettes and 'equivalents' as reported by Health Canada prior to September 2011, by region²¹

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Canada	47,833,345,700	45,624,106,210	41,438,652,460	39,660,112,599	38,646,829,606	36,334,578,343	32,647,513,194	32,332,684,194	29,320,227,153	30,179,032,225	n/a
Western	12,848,282,510	12,897,588,010	11,722,577,715	11,191,094,290	11,541,834,730	11,599,498,160	11,480,335,760	11,405,480,635	10,725,548,120	10,631,188,425	n/a
Ontario	18,624,317,725	17,873,329,995	16,744,459,308	16,215,566,720	14,933,737,095	13,600,724,635	11,570,604,604	10,411,419,051	9,462,945,683	9,849,441,100	n/a
Quebec	12,324,861,165	11,083,889,425	9,443,435,517	9,084,619,825	8,785,032,387	7,964,342,758	6,841,668,676	6,363,179,856	6,146,771,250	6,758,193,120	n/a
Eastern	4,005,985,100	3,719,973,580	3,480,950,120	3,125,562,964	3,346,268,994	3,142,271,090	2,714,382,834	2,569,712,565	2,589,638,785	2,880,912,455	n/a

Variance between reports, number of cigarettes or equivalents

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Canada	-6,208,143	-2,524,143	1,857	-4,286	-581,129,571	-478,130,986	-239,687,714	-1,814,689,383	-251,549,286	-73,976,429	n/a
Western	429	-1,286	857	30,571	-260,669,429	-229,463,429	-130,152,286	-163,441,571	187,865,286	-58,316,571	n/a
Ontario	-3,625,571	1,857	286	-1,714	-60,772,143	-44,850,143	-17,284,429	-22,046,429	-16,576,857	-1,937,000	n/a
Quebec	-143	286	-429	429	-116,470,714	-87,037,000	-38,463,000	-49,967,857	-39,668,571	-1,697,143	n/a
Eastern	-714	-3,286	-286	-2,714	-141,819,143	-118,143,857	-54,794,714	-64,515,714	-55,730,143	-13,470,143	n/a

Variance, percentage of cigarettes reported prior to September 2011.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Canada	0.0%	0.0%	0.0%	0.0%	-1.5%	-1.3%	-0.7%	-5.6%	-0.9%	-0.2%	n/a
Western	0.0%	0.0%	0.0%	0.0%	-2.3%	-2.0%	-1.1%	-1.4%	1.8%	-0.5%	n/a
Ontario	0.0%	0.0%	0.0%	0.0%	-0.4%	-0.3%	-0.1%	-0.2%	-0.2%	0.0%	n/a
Quebec	0.0%	0.0%	0.0%	0.0%	-1.3%	-1.1%	-0.6%	-0.8%	-0.6%	0.0%	n/a
Eastern	0.0%	0.0%	0.0%	0.0%	-4.2%	-3.8%	-2.0%	-2.5%	-2.2%	-0.5%	n/a

²¹ Source: *Wholesale shipments reported to Health Canada.*

<http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/indust/sales-ventes-eng.php>. Accessed January 2011

Section 3 Tables

Figure 3b: Western Provinces

Number of smokers and volume of tobacco shipments, 2001-2010.

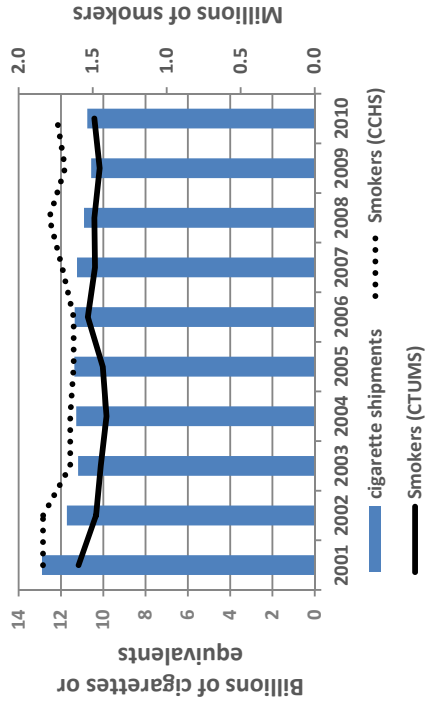


Figure 3d Quebec

Number of smokers and volume of tobacco shipments, 2001-2010.

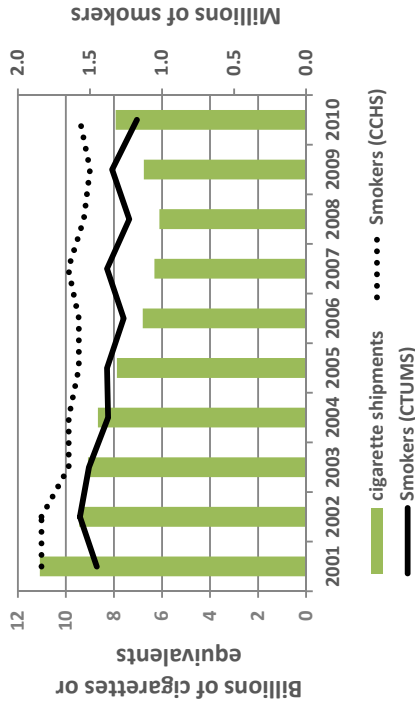


Figure 3c: Ontario

Number of smokers and volume of tobacco shipments, 2001-2010.

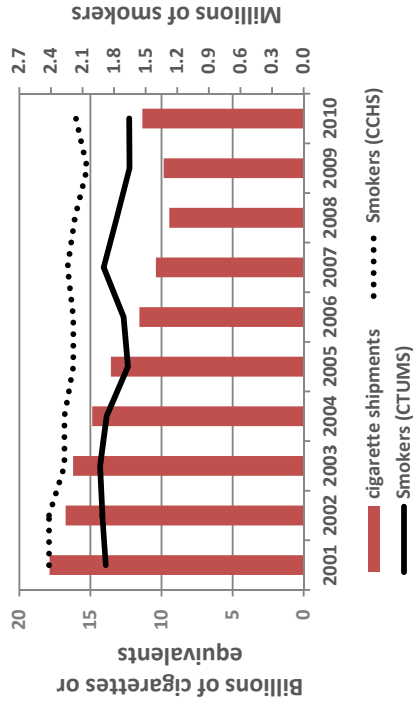


Figure 3e: Eastern Provinces

Number of smokers and volume of tobacco shipments, 2001-2010.

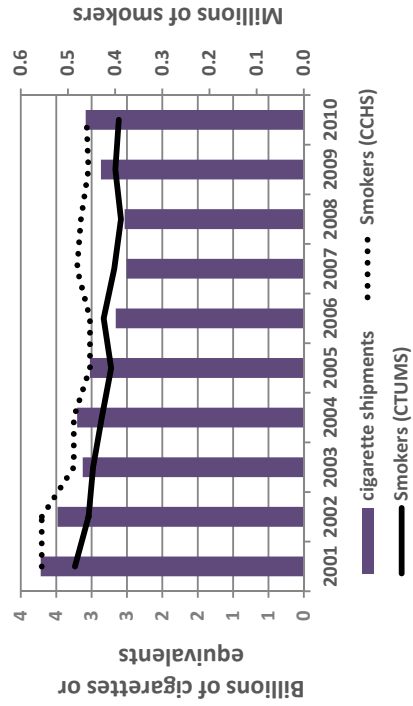


Table 3a. Cigarette shipments per smoker, CCHS..

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

Table 3b. Cigarette shipments per smoker, CTUMS .

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

Section 4 Tables

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

	Per capita 2001-2	2003/4	2005/6	2007	2008	2009	2010
Canada	6,519	39.6	38.3	39.8	39.2	37.4	38.9
Western	6,709	11.1	10.9	11.5	12.0	11.3	11.7
Ontario	7,160	16.3	15.7	16.1	15.6	14.7	15.5
Quebec	5,591	9.2	8.8	9.2	8.6	8.4	8.8
Eastern	6,483	3.2	2.9	3.1	3.1	3.0	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
Canada	7,654	42.5	40.4	38.9	39.3	41.1	38.9	38.6	37.4
Western	7,936	11.4	11.1	11.3	12.1	11.7	11.7	11.5	11.7
Ontario	8,760	16.7	16.2	14.4	14.8	16.4	15.4	14.3	14.3
Quebec	6,018	11.0	10.0	10.1	9.3	10.1	9.0	9.8	8.6
Eastern	7,627	3.3	3.2	3.0	3.1	3.0	2.9	3.0	2.9

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
Canada	1.15	0.81	1.57	5.35	9.02	8.31	7.02	2.72
Western	0.28	-0.12	-0.01	0.81	0.54	0.90	0.96	1.06
Ontario	0.71	1.52	1.06	3.43	6.25	6.11	4.63	3.16
Quebec	-0.01	-0.40	0.43	0.82	2.00	1.27	1.34	-0.86
Eastern	0.28	0.06	0.09	0.58	0.56	0.42	0.18	-0.09

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

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

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	2007	2008	2009	2010
	<i>Billions of cigarettes</i>				<i>Percentage of total market</i>			
Canada	9.33	10.10	7.25	5.71	23.4%	25.8%	19.4%	14.7%
Western	0.21	1.12	0.74	0.93	1.8%	9.3%	6.6%	8.0%
Ontario	5.67	6.11	4.87	4.13	35.3%	39.3%	33.1%	26.7%
Quebec	2.92	2.52	1.63	0.85	31.6%	29.2%	19.4%	9.7%
Eastern	0.61	0.53	0.09	-0.10	19.6%	17.3%	3.2%	-3.2%