

Project Eos

A study of illicit cigarette consumption in Latin America and Canada

Canada Report

January 2017



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Nothing in this Report constitutes legal advice. Information sources, the scope of our work, and scope and source limitations, are set out in the Appendices to this Report. The scope of our review of the contraband and counterfeit segments of the manufactured cigarette market within 18 Latin American countries and Canada was fixed by agreement with the Beneficiary and is set out in the Appendices.

We have satisfied ourselves, so far as possible, that the information presented in this Report is consistent with our information sources but we have not sought to establish the reliability of the information sources by reference to other evidence.

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Introduction to this report

Project Eos is a study which estimates the scale of the illicit cigarette market in selected countries within Latin America and Canada ("LA&C")

This independent study was commissioned by Philip Morris International Management SA in 2016. The study includes 19 markets from the LA&C region: Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Venezuela and Uruguay.

In addition to estimating the scale of the illicit cigarette market, the study aimed to identify the nature and dynamics of the illicit flows, such as the key origins and the main brands involved.

KPMG LLP's anti-illicit tobacco measurement experience

KPMG LLP has extensive experience in the measurement of illicit tobacco consumption across a number of markets. As well as Latin America, our work has covered markets in Europe, the Middle East, Asia and Australasia

Our work was pioneered in Europe where we have published an annual report on illicit cigarette consumption since 2006. The report, "Project SUN", is commissioned jointly by British American Tobacco plc, Imperial Tobacco Limited, and Philip Morris International Management S.A. The study includes all 28 European Union member states, and more recently both Norway and Switzerland.

KPMG's approach

We have applied our existing illicit trade methodology, as refined in the EU through Project SUN, to measure the size of the legal, contraband and counterfeit markets for tobacco products in the selected markets. This study uses an iterative data driven model which incorporates reported domestic sales, Empty Pack Survey and Pack Swap Survey results, travel trend analysis to calculate the volume of outflows and non-domestic inflows to and from each country of study, and to quantify the non-domestic legal and the remaining counterfeit and contraband cigarettes consumed in each country.



Glossary of terms

Average daily consumption Daily average consumption by the population of the legal smoking age

bn Billion

CAD Canadian dollar

C&C Counterfeit and Contraband, including Illicit Whites

CAGR Compound Annual Growth Rate

Cigarette Any factory-made product that contains tobacco and is intended to be burned or heated

under ordinary conditions of use

Cigarillos A short, narrow cigar, which, like cigarettes, is often machine-made and sold in packs

Consumption Actual total consumption of cigarettes in a market, including Reported domestic

consumption (LDC) and illicit products as well as those legally purchased overseas

Consumption gap The difference between total consumption and Reported domestic consumption

Contraband (CB)Genuine products that have been either bought in a low-tax country and which exceed

legal border limits or acquired without taxes for export purposes to be illegally re-sold (for

financial profit) in a higher priced market.

Counterfeit (CF) Cigarettes that are illegally manufactured and sold by a party other than the trademark

rights holder. For the purposes of this analysis, data relating to Counterfeit is not included within the definition of Contraband. This study's ability to identify counterfeit packs of non-participating manufacturers is limited (as described further in the appendix

methodology)

Country of originCountry from which the packs collected are deemed to have originated. This is

determined by either the tax stamp on the pack or in cases where the tax stamp is not

shown, on the health warning and packaging characteristics

CTMC Canadian Tobacco Manufacturer's Council

Domestic non-duty paid Cigarettes which have been produced domestically but no duty has been paid. These

packs are often manufactured by companies which are not registered locally or do not declare these volumes. Where required, packs may have no tax stamp or a counterfeit

tax stamp

Duty Free Cigarettes sold at a country point of entry (land borders, ports or airports) that have no

state, local or provincial taxes, federal import duties or any other type of taxation added

to the cost of the item purchased. Subject to purchase volume restrictions

EPS Empty pack survey – a survey which collects discarded cigarette packets from the street

or easy access public litter bins. The packs are analysed in order to determine their

brand and country of origin, alongside whether they are counterfeit or not

Glossary of terms

Flows Model The primary methodology for measuring consumption in a market. The model details the

volume of inflows and outflows of product for a given market by country of origin (the model only specifies flows to Latin American countries included in the scope of this

study)

Free trade zone / Special

customs zone

An area that is "a part of the territory of a [country] where any goods introduced are generally regarded, insofar as import duties and taxes are concerned, as being outside

the Customs territory" (Revised Kyoto Convention*). In practice, such zones have often become an area within which goods may be landed, handled, manufactured or

reconfigured, and re-exported without the intervention of the customs authorities. In many countries, products illegally pass through the free-zone border into the duty-paid market

without duty being paid.

First Nations According to the Aboriginal Affairs and Northern Development Canada department, First

Nations refers to Status and non-Status "Indian" peoples in Canada

First Nations Status The Aboriginal Affairs and Northern Development Canada department defines First

Nations Status as an individual recognised by the Federal Government of Canada as

being registered under the Indian Act

Illicit Whites Cigarettes that are usually manufactured legally in one country/market but which the

evidence suggests have been smuggled across borders during their transit to the destination market under review where they have limited or no legal distribution and are

sold without payment of tax

Illicit Whites with no country specific labelling

Packs of Illicit White Cigarettes which have "duty free" or no identifiable labelling on the

packs

IMS In Market Sales (the primary source of reported domestic sales volumes)

Inflows Inflows of non-domestic product from a market of study into another market of study

ITCAN Imperial Tobacco Canada Limited, a wholly owned subsidiary of British American

Tobacco

ITL Imperial Tobacco Limited

Latin America and Canada. For the purposes of this report, LA&C refers to the collective

group of countries within the scope of the study, including Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and

Venezuela

LDC Legal domestic consumption, worded in the report as reported domestic consumption, is

defined as reported domestic sales (LDS) net of outflows

LDS Cigarettes which have been sold legally in the country of study. In the report they are

also often described as reported domestic sales. These cigarettes are all sold through

legitimate, domestic channels based on In Market Sales (IMS) data

LTM Last twelve months

m Million

Most sold brand Most popular price category – this also equates to the most sold brand

MYO Make your own tobacco products



Glossary of terms

ND Non-Domestic product – product that originates from a different market than the one in

which it is consumed

ND(L) Non-Domestic (Legal) – product that is brought into the market legally by consumers,

such as during a cross-border trip

NDI Non-Domestic Incidence – proportion of total consumption which is comprised of non-

domestic cigarettes

NMA/TMA National Manufacturers' Association / Tobacco Manufacturers' Association

OTP Other Tobacco Products (RYO/MYO, cigarillos, portions, rolls and cigars; excluding

smokeless tobacco and water-pipe tobacco)

Outflows Outflows of product from the country of study to other countries as determined by EPS or

PS results in other countries

Pack Swap Survey

Pack Swap Surveys are a system of obtaining cigarette packs from smokers, the results

of which are used to estimate the share of non-domestic and counterfeit packs in each of

the markets

PMI Phillip Morris International

Province An administrative district of Canada

RBH Rothman's Benson and Hedges, Philip Morris International's affiliate in Canada

Reserve Ontario Ministry of Finance says that this is land that qualifies as a First Nations reserve

land under the Federal Indian Act (Canada)

RYO Roll your own tobacco products

Smoking prevalence The percentage of smokers in the total population of the legal smoking age

TMO Trademark owner – the legal owner of an identified brand

Tobacco taxesThe sum of all types of taxes levied on tobacco products. This includes indirect taxes

such as value added tax, excise tax or other taxes specifically for tobacco as set by the

treasury

Unreported domestic

consumption

Domestic consumption includes consumption from brands which are identified in the survey but not recorded in the Legal domestic sales data and therefore the legal status of

these products is unknown

Unspecified Unspecified market variant refers to cigarette packs which do not bear specific market

labelling or Duty Free labelling

UNWTO World Tourism Organization

WHO World Health Organization



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Executive Summary

Consumption of illicit cigarettes

On average, 15.6% of cigarettes consumed in Latin America and Canada were illicit, representing a volume of almost 40bn cigarettes

- Whilst Panama and Costa Rica experienced the highest incidence of illicit consumption at 56% and 33% respectively, the highest consumption by volume was Brazil, equating to 19 billion cigarettes (50% of total illicit consumption in Latin America and Canada)
- The main source of illicit cigarettes was from illicit whites and domestic illicit consumption
- A limited amount of contraband came from genuine brands which had been legally purchased in one country but sold illegally in another, whilst identified counterfeit was less than 0.1% of illicit cigarette consumption
- If the illicit cigarettes identified had been legally purchased they would have raised an additional USD4.6 billion in taxes in the LA&C region

Source of illicit whites

At a regional level the overall source of many illicit whites cigarettes can be traced to a limited number of country specific trademark owners

- These trademark owners operate, in the main out of Paraguay, China and India
 - Two thirds of total Contraband (or C&C) came from Paraguayan trademark owners, representing 20 billion cigarettes, just over half of the total illicit consumption
 - 86% of Paraguayan contraband was identified in Brazil
 - Brands produced by Indian and Chinese TMOs constituted over 2 billion cigarettes each
 - The most brands produced by Indian TMOs were identified in Chile and Mexico whilst Costa Rica and Colombia experienced the highest volume of Chinese TMO produced brands
- Whilst the report did not focus on illicit trade supply chain routes, it appears that a high volume may have been imported into Panama through free trade zones and then diverted into destination markets
- These cigarettes had limited or no legal distribution in the countries in which they were identified

Sources of domestic illicit consumption

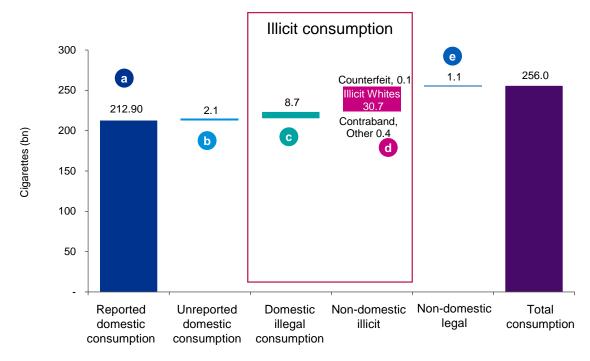
In some countries, domestic illicit consumption was a major issue, constituting 8.7 billion cigarettes

- These products are manufactured by local trademark owners but sold illegally, the largest example being Canada with the sale and distribution of native manufactured, non-duty paid cigarettes both on reserve and off reserve via a large criminal network
- There was an additional 2.1 billion of unreported domestic consumption. As these products did not appear on recorded legal domestic sales information, it is not known if taxes were paid on these cigarettes and if they were legal or not



Executive Summary (2/2)

LA&C manufactured cigarette consumption by type



Throughout the report, our analysis has focussed on following categories of cigarette consumption:

- a Reported domestic consumption
 - Cigarettes legally purchased and consumed within the country of study, based on LDS data
- Unreported domestic consumption
 - In some Latin American countries there is also some 'Unreported domestic' consumption. These
 products are not included in the reported domestic sales but do have genuine domestic labelling.
 It is not known if these products are sold legally or not
- c Domestic illegal consumption
 - Product with domestic labelling but which is illicit. These products are identified in many different ways. In Argentina they are sold with fraudulent tax stamps. In Brazil they are sold at below minimum price. In Mexico domestic illegal brands are identified by Cofepris (The Mexican Health Authority) each year, whilst in Canada they are manufactured in First Nation enclosures but then illegally sold in the rest of Canada
- d Non-domestic illicit divided into three components
 - Illicit Whites: Manufactured legally in countries like Paraguay and China, but distributed illegally
 - Contraband (Other): A low volume of product where tax was paid legally in one country but evaded in another
 - Counterfeit: Counterfeit was generally only identified for PMI products
- Non-domestic legal
 - ND(L) is low in Latin America as travel between countries tends to be infrequent, which results in low volumes of cross-border sales



Regional overview

Cigarette consumption by type in the LA&C region

Total regional manufactured cigarette consumption by type, LTM June 2016^{(1)(a)(b)}

LA&C Region	Consumption	% of TC
Reported Domestic Consumption	212.90	83.1%
Domestic Illegal Consumption	8.68	0.7%
Unreported Domestic Consumption	2.10	0.8%
ND(L)	1.14	0.4%
C&C	31.27	14.9%
Total Consumption	256.04	100.0%

The profile of manufactured cigarette consumption in the LA&C region differed across the countries of study, with overall illicit volumes estimated at 15.6% of total consumption

- There were five countries where illicit volumes exceeded 20% of total consumption: Brazil, Canada, Costa Rica, Dominican Republic and Panama
- Across the LA&C markets of scale(c), illicit cigarette consumption was highest in:
 - Brazil (23.1%) due to the significant inflow of Paraguayan labelled cigarettes
 - Canada (20.8%) owing to the issue of widespread consumption of First Nations cigarettes^(d)
- ND(L) volumes were very low due to limited travel between each country, with the exception of Panama and Bolivia
- Domestic illegal consumption was most prevalent in Argentina, Brazil, Canada and Mexico
- Unreported domestic consumption was identified in Brazil and Mexico and in small volumes in Costa Rica, Guatemala and Honduras

Notes:

- (a) For Peru and Paraguay due to lack of data availability the chart represents the total of C&C and ND(L), without separating the two
- (b) For Canada the share of overall illicit volume (20.8%) comprises First Nations (domestic non-duty paid) and C&C
- (c) Defined here for the purposes of this overview as any country with total consumption over 5bn cigarettes p.a.
- d) The issues of First Nations cigarette consumption in Canada is covered in more detail on page 14

Source:

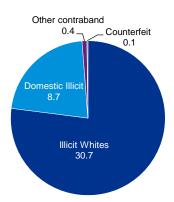
(1) KPMG LA&C Flows Model and analysis of the data sources provided by PMI



Regional overview

Illicit cigarette consumption in the LA&C region

Illicit consumption by type, LA&C Region^{(1)(a)}



The illicit cigarette market dynamics differed across Latin America and Canada. However, the main type of illicit consumption within most countries was illicit whites brands

- Illicit whites brands had limited or no legal distribution in any country within the study and are sold without payment of tax in the country where the product is consumed
- Domestic illicit consumption was accounted for by illegally distributed cigarettes from local manufacturers
- Other contraband was represented by brands which were legally sold within the country of origin but then moved into other countries without the payment of tax in that destination market
- Counterfeit cigarettes are negligible as a share of consumption in the LA&C region
- In some countries there is also an 'Unreported domestic' market of brands which are not included in the reported domestic sales volumes, but are identified in the survey results as domestic brands. It is not known if tax was paid on these products. The result is that a small proportion of the domestic market was not included in the Reported domestic sales volume and the legal status of many of these products is unknown

Note: Source:

⁽¹⁾ KPMG LA&C Flows Model and analysis of the data sources provided by PMI

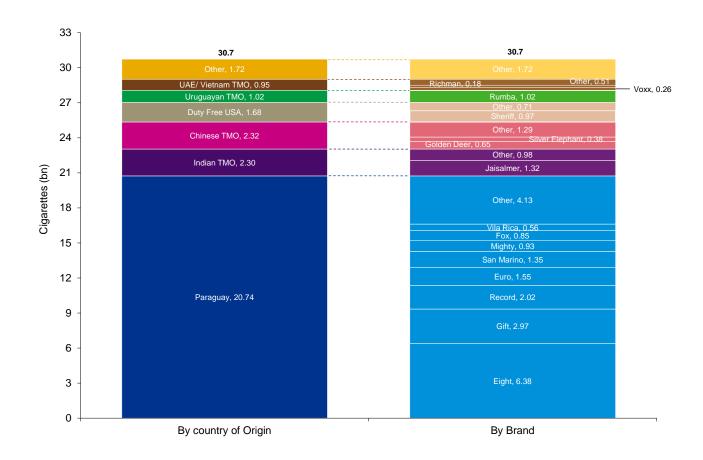


⁽a) Other contraband includes brands trademark owned by PMI, BAT, JTI and Imperial as collected in the EPS and Pack Swaps

Key non-domestic flows and other regional issues

Illicit whites consumption in the LA&C region

C&C by country of origin and brand in Latin America, LTM June 2016⁽¹⁾



- The largest component of illicit cigarette consumption was illicit whites, accounting for over three quarters of illicit cigarette consumption
 - There is no evidence that these brands are available legally in the destination markets within the countries of study, meaning that the entire brand flow was categorised as illicit
 - Brand data was not available for Bolivia, Canada, Paraguay and Peru and therefore these countries have not been included in this analysis
- Over 40 brands were identified from Paraguay, the largest of which was Eight, trademark owned by Tabesa
- Jaisalmer, seen in many Central American countries is trademark-owned by Godfrey Philips, an Indian company
- In addition to the flows where it was possible to identify the TMOs, there were some unidentified TMOs which may add to the volumes from the main countries included







Key non-domestic flows and other regional issues

Free Trade Zones

Free trade zones are thought to operate as key transit hubs for cigarettes that make their way into Latin America

— The main Free Trade Zones are in Belize, Panama and Colombia. Here cigarettes are imported without the payment of any customs duty. They can be purchased by distributors without the payment of tax and then can be smuggled across borders where they are sold as illicit product

Panama: Colon Free Trade Zone The Colon Free Trade Zone The Colon Free Trade Zone is the most established in Latin America GTIS data from 2015 indicated that 7.1 billion cigarettes were imported into Colon, but only 3 billion were reported to leave

Belize: Corozal Free Trade Zone

- Founded in 1994, the Corozal Zone has 314 registered companies operating in it, of which 30 are tobacco companies
- GTIS data from 2015 indicated that 2.1 billion cigarettes were imported into Belize but there is no or obligation to report the amount that is exported
- More recently in 2016, shipments from India equated to approximately two billion cigarettes, with many being brands identified as illicit whites within this study. Those brands not identified in the study are likely to have been exported to other countries including the USA
- Geographically, Belize sits close to Mexico where a high volume of the product is thought to be destined

- Shipment data from India indicated that one billion cigarettes were exported to Panama in 2016, many of these brands that were identified as illicit whites in the study, including Jaisalmer and Gold City
- Whilst it is believed that the Colon Free Trade Zone still serves as a transit point for cigarettes, there has been a reduction in Panama manufactured or packaged cigarettes after Panama's customs (the SIG) temporarily revoked Overseas United International's licence to manufacture cigarettes in April 2016⁽⁵⁾

Colombia: Maicao 'Special Customs Regime Zone'(3)

- Goods are introduced into special customs zones and illegally introduced into the national customs territory
- Goods imported to the Special Zone are subject to 4% entry tax on the merchandise's customs value. They are subject to an excise tax as per law 223/1995, except goods to be re-exported. Advantages defined herein shall be applicable exclusively to goods imported into the Special Zone through customs approved entry points.
- There is evidence of over-use of such advantages. According to publicly available records, most of the volume entering the Special Zone is not re-exported or nationalized. An important part of the contraband cigarettes found in the national territory enter through Puerto Nuevo and get into Maicao.
- It is estimated that 2 billion units are illegally exported each year. A study by Invamer revealed that 75% of all illegal cigarettes consumed in the country came from Uruguay (Montepaz), China (China Tobacco) and Paraguay (Tabesa/Hernandarias).

Source:

- (1) American Chamber of Commerce in Costa Rica, 'Illicit Cigarette Trade in Central America', October 2016
- (2) GITS Database, 2015
- (3) Invamer, Q4 2015
- (4) KPMG analysis of shipment data from Zauba
- (5) Removal resolution of SIG, 4 April 2016



Key non-domestic flows and other regional issues

Sale and distribution of native-manufactured non-duty paid cigarettes

Domestic illegal cigarette consumption in Canada, LTM June 2016



Illicit cigarette consumption in Canada is mainly domestic illegal (or non-duty paid) consumption, totalling up to 6.94bn cigarettes in LTM June 2016

- This issue mainly impacts Ontario and Quebec, with volumes estimated to be greatest there (up to 4.1bn and 0.7bn cigarettes respectively)
- Illicit trade is a complex political issue in Canada, and mainly involves illicit manufacturing and distribution of cigarettes from First Nations reserves
- Under section 87 of the Indian Act (Canada)⁽¹⁾, the personal property of First Nation Status people living on First Nations reserves is exempt from certain taxation. As a result, they are exempt from all taxes on tobacco, apart from federal excise tax
- The issue then arises when these First Nations manufactured tax-exempt cigarettes are diverted to the wider population⁽²⁾
- The illicit cigarette trade is concentrated in the Mohawk Nation reserves in Ontario and Quebec⁽³⁾
- Production within these reserves is considered legal until the cigarettes are diverted to the wider population. Production capacity is estimated to far exceed consumption in the reserves, with an estimated production capacity of 2 to 5 billion cigarettes per year in Quebec
- There are also 16 factories in the reservations in Ontario, with a total estimated production capacity of 17 to 20 billion cigarettes annually
 - Grand River Enterprises (GRE) is believed to be the largest source of illicit cigarettes in Canada, with an estimated production capacity of 15 billion cigarettes per annum. GRE is understood to produce unbranded bagged cigarettes as well as branded packs of cigarettes (e.g. Putters, DK, Seneca)⁽⁴⁾
- The Royal Canadian Mounted Police (RCMP)⁽⁵⁾ states that "illicit tobacco markets in the Atlantic and Northwest regions are almost entirely supplied by criminal organisations that obtain their products mainly from First Nations communities in Ontario and Quebec"
 - The RCMP also noted that "the illicit tobacco market is dominated by criminal organisations driven by the attraction of considerable profits", who operate in First Nations communities⁽⁶⁾
- Flows of cigarette brands with First Nations trademark-owners were also identified in some Central American countries of study, including Mexico, Costa Rica, Guatemala and Honduras. The brand Seneca had the highest estimated volume (0.10bn cigarettes) across these four countries

Sources:

- (1) Indian Act (R.S.C 1985), Government of Canada Justice Laws website
- (2) 'Prevalence and correlates of purchasing contraband cigarettes on First Nations reserves in Ontario, Canada', Luk et al. (2009)
- (3) Various press articles including 'First Nations set to battle Ottawa over contraband cigarettes', Toronto Star 2015
- (4) 'Illicit Trade on First Nations territory', MD Presentation PMI internal research
- (5) 'Contraband Tobacco Enforcement Strategy', Royal Canadian Mounted Police, 2013
- (6) '2014 Report on the Federal Strategy for Tobacco Control', Royal Canadian Mounted Police, April 2015





Country report - Canada

Canada

Key highlight on consumption and overall illicit volume

Total Canada manufactured cigarette consumption, annual estimate, LTM June 2016⁽¹⁾⁽²⁾

Total Canada Consumption		
(bn cigarettes)	LTM June 2016	% of TC
Legal domestic sales (LDS)	26.47	79.3%
Outflows	(0.03)	-0.1%
Legal domestic consumption (LDC)	26.44	79.2%
Non-domestic legal (ND(L))	n/a	n/a
Total illicit (domestic illicit and C&C)	6.94	20.8%
Total non-domestic	6.94	20.8%
Total consumption	33.39	100.0%

Around 1 in 5 manufactured cigarettes consumed in Canada is estimated to be illicit

- The overall picture for Canada includes very different levels of non-domestic and illicit consumption by province. Ontario and Quebec, where levels are believed to be highest, are covered in more detail overleaf
- Illicit cigarette consumption in Canada is mainly domestic non-duty paid volumes and represents a complex political issue in Canada, mainly involving illicit manufacturing and distribution of cigarettes from First Nations reserves
 - Under section 87 of the Indian Act (Canada)⁽³⁾, the personal property of First Nation Status people living on First Nations reserves is exempt from certain taxation. As a result, they are exempt from all taxes on tobacco, apart from federal excise tax
 - The issue then arises when these First Nations manufactured tax-exempt cigarettes are diverted to the wider population, largely as "the illicit tobacco market is dominated by criminal organisations driven by the attraction of considerable profits", who operate in First Nations communities
 - This issue is covered in further detail in the Key Regional Issues section of this report
- If the total volume of illicit consumption had been consumed legally within the Canadian market, the Canadian Treasury would have raised an additional tax revenue of approximately \$2.0bn^(a)

⁽³⁾ Indian Act (R.S.C 1985), Government of Canada – Justice Laws website



Source:

Note: (a) The total loss estimate is based on the tax rate (as a % of the retail sales price of the most common brand of cigarettes in July 2016) multiplied by the total volume of illicit cigarettes consumed in the LTM to June 2016

⁽¹⁾ IMS Legal Domestic Sales data based on actual manufacturer shipment volumes received from an external third party, July 2015-June 2016

⁽²⁾ PMI estimates on levels of contraband consumption for Canada

Ontario and Quebec

Key highlight on consumption and overall illicit volume

Total Ontario manufactured cigarette consumption, annual estimate, LTM June 2016⁽¹⁾⁽²⁾

Total Ontario Consumption		
(bn cigarettes)	LTM June 2016	% of TC
Legal domestic sales (LDS)	8.15	66.5%
Outflows	n/a	n/a
Legal domestic consumption (LDC)	8.15	66.5%
Non-domestic legal (ND(L))	n/a	n/a
Total illicit (domestic illicit and C&C)	4.11	33.5%
Total non-domestic	4.11	33.5%
Total consumption	12.26	100.0%

A third of manufactured cigarette consumption in Ontario (Canada) is estimated as illicit

 Ontario has highest consumption incidence of domestic non-duty paid cigarettes of all Canadian provinces

Total Quebec manufactured cigarette consumption, annual estimate, LTM June 2016⁽¹⁾⁽²⁾

Total Quebec Consumption		
(bn cigarettes)	LTM June 2016	% of TC
Legal domestic sales (LDS)	6.88	90.8%
Outflows	n/a	n/a
Legal domestic consumption (LDC)	6.88	90.8%
Non-domestic legal (ND(L))	n/a	n/a
Total illicit (domestic illicit and C&C)	0.70	9.3%
Total non-domestic	0.70	9.3%
Total consumption	7.58	100.0%

Illicit manufactured cigarette consumption in Quebec (Canada) is estimated as almost a tenth of total consumption

 Quebec is believed the have the second highest volume of domestic non-duty paid cigarettes of the Canadian provinces

Source:

Consumer survey – GfK Illicit Monitor data Q3 2015 – Q2 2016

IMS Legal Domestic Sales data by Province based on actual manufacturer shipment volumes received from an external third party, July 2015-June 2016





Appendices

- 1) Methodology
- 2) Data tables
- 3) Scope of work

Methodology: LA&C overview (1/3)

We have developed a methodology for quantifying C&C incidence across the 19 Central and South American markets and Canada ("LA&C")

The methodology has been applied to multiple projects and refined to ensure that it delivers the robust and explainable results

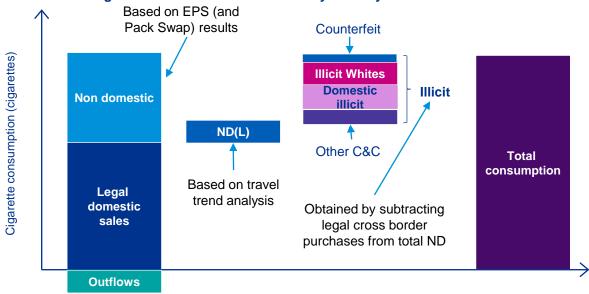
- Our approach integrates multiple sources and custom-built analytical tools. It is based on the approach used successfully since 2006 on Project Star/SUN to assess C&C consumption across the EU markets
- On the basis of varying levels of data availability and information, alternative methodologies have been developed to understand C&C consumption in Bolivia, Peru and Paraguay, as well as Canada (Ontario and Quebec). These different approaches are covered in more detail on pages 67 and 68

The methodology is based primarily on objective evidence from legal domestic sales (LDS), empty pack survey (EPS) and Pack Swap survey results, which are inputted into a bespoke model

The KPMG Flows Model is a dynamic, iterative model that is based on LDS, EPS and Pack Swap Survey results, and is used to estimate the overall volume of manufactured cigarette consumption

- The KPMG Flows Model has been developed by KPMG to measure inflows and outflows of cigarettes between the 19 LA&C markets included in this study. It is an iterative data driven model that uses LDS, EPS and Pack Swap Survey results which estimates a defined quantity of domestic and non-domestic cigarettes by country of origin and brand
- LDS are the starting point of the methodology, from which outflows of legal sales to other countries are then subtracted to determine legal domestic consumption
- Non-domestic inflows from other countries are then added in to give an estimate for the total consumption within a market
- These inflows are split into non-domestic legal and illicit consumption based on where the packs have originated and travel trend analysis
- Illicit consumption is split into component parts based on the packs identified in the EPS / Packs-swap

Project Eos uses Legal Domestic Sales, Pack Swap results and travel research to quantify the volume of C&C cigarettes consumed in each country of study





Methodology: LA&C overview (2/3)

EPS results provide a robust indication of the incidence of nondomestic and counterfeit packs and country of origin

EPS relies purely on physical evidence, avoiding the variability of consumer bias found in interview-based methods

- EPSs were conducted for 14 of the 19 markets included in this report during the period of study (a Pack Swap was used in Colombia and a consumer survey in Canada)
- The EPSs were conducted by independent market research agencies on a consistent basis across these 14 markets, allowing for direct comparison of data and the identification of inflows and outflows between the countries analysed
- Over 64,000 packs were collected in LTM June 2016 as part of this research
- Further detail regarding the reliability and validity of EPS, the sampling approach and results by country at a regional level are provided on page 72, 73, 74, 75, 76, and 77

Travel and tourism trends are used to quantify the volume of legal non-domestic cigarette purchases

Travel and tourism data provided by publicly-available third-party sources are used to estimate genuine, legal non-domestic tobacco purchases in each market based on inbound visit inflows

- World Tourism Organisation⁽¹⁾ data is the main source used for travel trends
- The quantum of cigarettes purchased is calculated assuming that travellers who smoke (as defined by the national smoking prevalence) will purchase their legal allowance, assuming that the price is lower
- Where flows enter a country from a higher priced country they are assumed to be legal, representing leftover cigarettes smokers will consume before purchasing lower-priced cigarettes. The price of the most popular brand in each market was used to undertake that analysis
- The remaining non-domestic cigarettes are contraband and make up the total volume of C&C along with the identified counterfeit
- In Central and South America many of the brands originated from trademarkowners based in other countries but were not available legally in those countries, therefore these brands are also removed from ND(L)

There are some specific limitations in the Project Eos methodology

Given the innate complexity of measuring C&C, we recognise there are some limitations within the methodology

- There are two types of limitations: scope exclusions and source limitations
 - Scope exclusions include areas which cannot be or have not been accounted for in our scope of work and approach, such as geographic, unidentifiable brands and Other Tobacco Products
 - 2. Source limitations are determined by the lack of availability of information or sampling criteria, which may incur coverage issues and seasonality factors

To help improve the accuracy of results, some minor refinements were necessary at a country level Comparison of results from alternative sources identified a few markets where country-to-country flows required adjustments due to fraudulent labelling

 As discussed in the Regional Overview, some brands were given country specific labelling when they were not available in those countries. The origin or these brands has been adjusted based on the location of the Trademark-owner

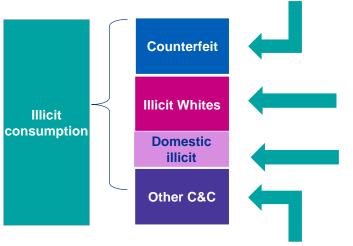
Source: (1) UN WTO Tourism Factbook 2015-2016



Methodology: LA&C overview (3/3)

Based on the non-domestic brands identified in the EPS / Pack-swap, Counterfeit and contraband is allocated into three constituent parts: Counterfeit, Illicit Whites and Other C&C

Counterfeit packs are identified using the EPS. Packs are reviewed by the manufacturer based on pack design, printing, ink used and potential serialisation. It is only possible to 100% identify counterfeit from PMI brands, but other brands have been labelled as counterfeit where the packaging has been clearly forged



Illicit Whites are defined as cigarettes which are usually manufactured legally in one country or market but which the evidence suggests have been smuggled across borders during their transit to the destination market where they have limited or no legal distribution and are sold without the payment of tax. KPMG's approaching to identifying Illicit Whites brand flows is described on page 71

Domestic illicit consumption is defined as cigarettes with domestic labelling, but which have not been sold legally. They are identified through fraudulent labelling or being sold at below the minimum price

'Other C&C' comprises contraband which does not fall within the Illicit Whites definition. This may also include counterfeit of brands that are not trademark-owned by participant manufacturers^(a)

Key variations in product source, identification and analysis

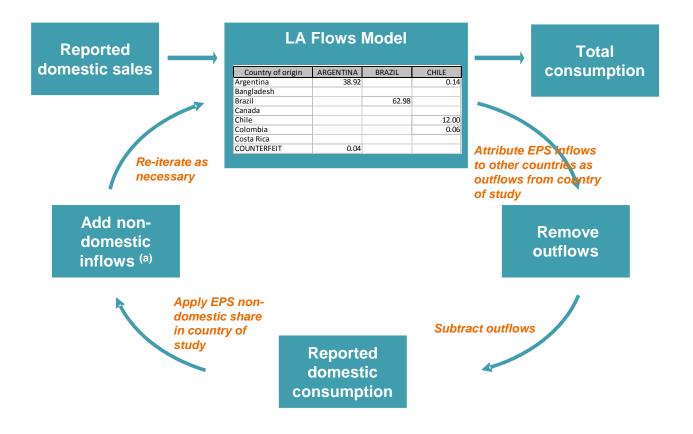
- Over 98.4% of non-domestic C&C product identified within the Eos report is defined as Illicit Whites brand flows. These often tend to be transported in large volumes. Illicit Whites brand flows are not subject to the same supply chain controls as those of genuine international brands. This means that product can be legally manufactured in a country, but then imported illegally in bulk, resulting in high volumes of seizures of Illicit Whites
- Other C&C' makes up 1% of the total non-domestic contraband volume identified in the 19 countries of study. 'Other C&C' is generally only available through legitimate Point of Sale locations as duty has been paid in the country of origin. This type of product only occurs where there is a price incentive to smuggle the product between one country and another. This means it is generally transported in low volumes, as a result of consumers bringing back above their legal allowance. This high frequency but low volume approach, sometimes referred to as "bootlegging", which can detection extremely difficult
- Counterfeit is also often transported in large volumes and is often identified within illegal factories.
 Counterfeit volumes identified in the LA&C region were relatively low as a share of total C&C at 0.1%

Note:

(1) Cigarette packs of brands that are not trade mark owned by PMI are not analysed and are all considered to be genuine unless very clearly counterfeit (e.g. clear mistakes in design)



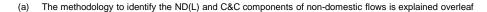
Methodology: LA Flows Model



The KPMG LA Flows Model is a dynamic, iterative model that is based on using the volume of Reported domestic sales combined with the percentage splits identified within the EPS

- LDS volumes are the starting point of the model from which outflows of legal sales to other countries
 are then subtracted to estimate Reported domestic consumption in a market
- The percentage of non-domestic inflows from other countries are then added to give an estimate for the total consumption within a market
- The model is then re-iterated as necessary reflecting the relationship of inflows and outflows between all 15 countries of study where EPS or Pack Swap Survey results were available to ensure that all flows estimated are equal
- The Pack Swap Survey results from Colombia were used in an equivalent way, using the packs identified to calculate the percentage of non-domestic cigarettes by country of origin and brand







Methodology: Canada approach and consumer survey

Overview

In providing an estimate of illicit cigarette consumption in Canada, we have focused nationally and on the provinces of Ontario and Quebec

- Illicit consumption in Canada largely involves consumption of domestic non-duty paid cigarettes by non-First Nations registered people (as outlined on page 29 and 30)
- The report has also focused on Ontario and Quebec as this issue is estimated to be most significant in these states and data availability is better as a result

Methodology

Domestic non-duty paid incidence has been estimated using the data sources outlined below and has not been analysed within the KPMG LA Flows Model

- Legal domestic sales (LDS) are the starting point of the methodology. Total Canada outflows were identified in other countries of study, however, we have been unable to estimate outflows on a provincial basis
 - Legal domestic consumption is estimated as LDS less outflows
- The methodology has been primarily based on the GfK Consumer Survey responses.⁽¹⁾ Consumer Survey results, collected every 4 weeks during the period July 2015 to June 2016, collect responses on the past 7-day illicit share of purchase.
 - This has been used to estimate illicit domestic non-duty paid volumes
 - Non-domestic volumes and counterfeit cigarettes could not be identified in the consumer survey
 - We have been unable to estimate the non-domestic illicit portion of total illicit consumption due to limited data availability

Limitations

Given the innate complexity of measuring illicit consumption, limitations to the accurate quantification of domestic non-duty paid in Canada can be expected

- Consumer surveys provide a response-based view of the population and, notwithstanding some scope constraints, track respondent consumption behaviours and purchase patterns
 - The Consumer Survey sample was weighted to be representative of the population nationally and within each province covered. There may, however, be some demographic segments excluded from the survey, such as those who do not have access to the internet
 - A further limitation is the underreporting of illicit consumption⁽²⁾
- Other statistical, scope and source limitations are outlined on page 60

Source:

- (1) 'Illicit Monitor', Aug 2016 GfK (quarterly results were used from Q3 2015 to Q2 2016)
- (2) Gallus et al, "Temporal changes of under-reporting of cigarette consumption in population-based studies" (2011)



Illicit Whites analysis

Illicit Whites brand flows represented 98.4% of total C&C consumption in the LA&C region in the period LTM June 2016

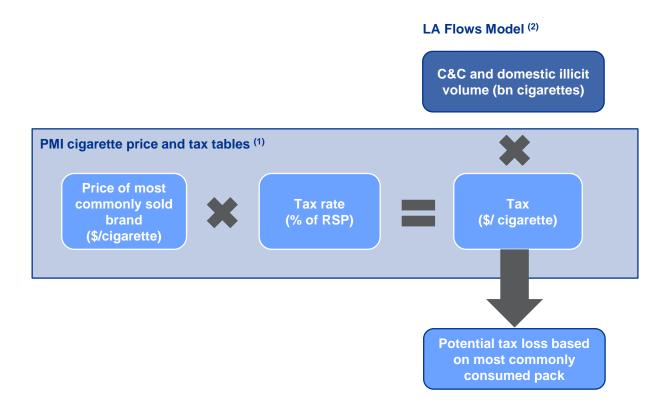
- Illicit Whites are defined as
 - Cigarettes that are usually produced legally in one country/market but which the evidence suggests are smuggled across borders during their transit to the destination market under review where they have limited or no legal distribution and are sold without payment of tax
- KPMG undertook the following analysis to determine which brands made up Illicit Whites brand flows:
 - Brand inflows into a particular country were compared to the Reported domestic sales (per IMS) data for that market
 - Brand inflows were also compared to the Reported domestic sales (per IMS) for the country of origin as indicated by the labelling and recorded in the EPS
 - Where no legal distribution was identified in those markets, the brand inflow was considered to be an Illicit White flow. Checks were also made on a regional basis to determine any wider legal distribution
 - Illicit White inflows were typically large volumes with Paraguayan labelling, from Chinese or Indian TMOs, or with no country specific labelling. All of the cigarettes identified with fraudulent labelling were also illicit whites brands
- Many of the Illicit Whites brand flows are identified in high volumes in the EPS. However, given our identification of counterfeit product is limited to the four industry participants, we cannot assess whether these flows are genuine or counterfeit



Total tax loss estimate

Tax losses are calculated to estimate the tax revenue that would have been gained had the volume of C&C and domestic illicit cigarettes consumed been legally purchased in that country

- The calculation shown below was performed for each country within the study
 - Cigarette price and tax tables as provided by PMI were used to determine the price of the most commonly consumed brand in the latest version available (July 2016)
 - This is then multiplied by the tax rate (as a % of the retail sales price of that pack)
 - The resultant tax take (per cigarette) is multiplied by the combined C&C and domestic illicit consumption volumes for that country per the LA Flows Model to estimate the total potential tax loss based on the most commonly consumed brand by country
- Total tax losses for the 19 countries included in the study based on the most commonly consumed brand were estimated to be \$4.6bn in LTM June 2016
- Tax losses are calculated based on sales volumes and are not reflective of any other factors, like
 affordability or price elasticity and are always reported at what would have been lost if the C&C had
 been purchased legally



Source:

- (1) PMI cigarette price and tax tables as at <u>July</u> 2016
- (2) KPMG LA Flows Model and analysis of data sources provided by PMI



Sources (1/3)

- PMI Management discussion
- PMI Pack Swap Surveys
- PMI pricing team
- Legal domestic sales data provided by PMI
- Average daily consumption data (CAST) provided by PMI
- Illicit trade data of Argentina provided by PMI, GSPR and Nielsen
- Retail store audit of Bolivia provided by PMI
- Cigarette production, destruction and seizures, and excise tax for Brazil, IRS data, provided by PMI
- Cigarette production and tax collection data provided by PMI
- GfK Illicit Monitor data, August 17th, 2016
- GfK Illicit Monitor data, October 11th, 2016
- Contraband tracking data of Canada provided by PMI
- Industry decline, Canada, Industry Exchange Cigarettes and Fine Cut R12 ending in Q2'16
- Illicit Trade on first nations territory, Philip Morris International
- Monthly number of cigarettes produced in Canada from 2014 to 2016 (in millions), statcan.gc.ca
- Ilegalidad de Cigarrillos en Colombia (Unlawfulness of cigarettes in Colombia), Federación Nacional de Departamentos, Invamer
- Incidencia de Cigarrillos Ilegales en Colombia en 2015 (Incidence of illegal cigarettes in Colombia in 2015), Federación Nacional de Departamentos, Invamer
- Copia de Cuadros Amcham Ilícitos 2014 (Copy of illegal Amcham Pictures 2014), Costa Rica, provided by PMI
- Mercado De Cigarrillos Ilícitos En Costa Rica (Illegal market in Costa Rica), November 2014, Amcham
- Ecuador PMI sales and non-domestic products distribution data provided by PMI
- Illicit product study 2013 performed by EKOS provided by PMI
- Study for the determination of illicit market in Ecuador impact of consumption, chamber of industries and production, unit of economic research and markets, October 2013
- Collection of internal revenue service, January December 2015, Costa Rica provided by PMI
- Collection of management of internal revenue service, January August 2016, Costa Rica, provided by PMI
- Total new share volume El Salvador and Guatemala, Nielsen, provided by PMI
- COFEPRIS Alert to cigarettes are illegally traded, Health Secretary, August 2016
- Cigarallos study results presentation illicit March 2015, Panama, Dichter & Neira
- Illicit trades strategy and prevention, Paraguay customs data, 2015
- Cigarette audit Results Q2 2016, CCR, provided by PMI
- Euromonitor Passport, Illicit trade in tobacco products 2011, December 2011
- Needs assessment for implementation of the framework convention on WHO for control of tobacco in Peru, Secretariat of the Convention, 2015
- Seizures of contrabanding cigarettes, Peru, January September 2016
- Peru IMS trend data July 2011 June 2016



Sources (2/3)

- Zone II PM, CCR, Peru, January 2015 June 2016
- Zone III PM, CCR, Peru, January 2015 June 2016
- Zone IV PM, CCR, Peru, January 2015 June 2016
- Iguitos area, CCR, Peru, January 2015 June 2016
- Lima area, CCR, Peru, January 2015 June 2016
- Monthly cigarillos data, CCR, Peru, provided by PMI
- LAC tax tables, October 2015, provided by PMI
- LAC tax tables, July 2015, provided by PMI
- LAC tax tables, January 2016, provided by PMI
- LAC tax tables, April 2016, provided by PMI
- Illicit trade data, GSPR and Nielsen, provided by PMI
- Volume and price list, provided by PMI
- Pack swap survey data, Colombia, November 2015
- International cigarette prices, cigaretteprices.net
- Syrian Arab State country profile, WHO Report on the Global Tobacco Epidemic, 2015
- Legal limit on number of packs that can be brought into selected countries, iatatravelcentre.com, worldtravelguide.net, dutyfreeonarrival.com
- Centro de Investigación de la Epidemia de Tabaquismo (CIET), au Uruguay-based NGO
- The explosion of "illicit whites", Tobacco Journal International
- Peru Contraband Seizure Highlights Smuggling In Bolivia Border region, Insight Crine, July 2014
- Seized Containers of Contraband Cigarettes [Peru], Counterfeit Cigarettes: An Enforcement Forum, July 2016
- Cigarettespedia.com
- Euromonitor, Passport, Total population, downloaded October 2016
- The State of the World's Children 2016, UNICEF, downloaded November 2016
- Euromonitor Passport, Smoking Prevalence, downloaded October 2016
- Euromonitor Passport, Population aged 15-64, downloaded October 2016
- WHO Report on the Global tobacco Epidemic, 2015, downloaded October 2016
- Eriksen M, Mackay J, Ross H. The Tobacco Atlas. Fourth Edition, 2012
- World Tourism Organization, Compendium of Tourism Statistics dataset, 2014
- Euromonitor Passport, Cigarettes in Argentina, August 2016
- Euromonitor Passport, Cigarettes in Bolivia, August 2016
- Euromonitor Passport, Cigarettes in Canada, August 2016
- Euromonitor Passport, Cigarettes in Chile, August 2016
- Euromonitor Passport, Cigarettes in Colombia, August 2016
- Euromonitor Passport, Cigarettes in Costa Rica, August 2016
- Euromonitor Passport, Cigarettes in Dominican Republic, August 2016
- Euromonitor Passport, Cigarettes in Ecuador, August 2016
- Euromonitor Passport, Cigarettes in Guatemala, August 2016



Sources (3/3)

- Euromonitor Passport, Cigarettes in Mexico, August 2016
- Euromonitor Passport, Cigarettes in Peru, August 2016
- Euromonitor Passport, Cigarettes in Uruguay, August 2016
- Euromonitor Passport, Cigarettes in Venezuela, August 2016
- KPMG LA&C Flows Model and analysis of the data sources provided by PMI
- Tax revenue sources:

Country	Source
Argentina	AFIP - Administracion Federal de Ingresos Publicos Ministerio de Agroindustria - Presidencia de la Nacion
Bolivia	Ministerio de Economia y Finanzas Publicas
Brazil	Receita Federal - Ministerio da Fazenda
Canada	Department of Finance Canada Department of Finance of each Province
Chile	Servicio de Impuestos Internos
Colombia	Ministerio de Hacienda y Credito Publico
Costa Rica	Ministerio de Hacienda Costa Rica
Dominican Rep.	Direccion General de Impuestos Internos - Gobierno de Republica Dominicana
Ecuador	Servicio de Rentas Internas - Gobierno Nacional de la Republica del Ecuador
El Salvador	Banco Central de Reserva de El Salvador
Guatemala	Ministerio de Finanzas Publicas - Gobierno de la Republica de Guatemala
Honduras	Secretaria de Finanzas - Gobierno de la Republica de Honduras
Mexico	Secretaria de Hacienda y Credito Publico
Nicaragua	Ministerio de Hacienda y Credito Publico
Panama	Ministerio de Economia y Finanzas - Republica de Panama
Paraguay	Ministerio de Hacienda
Peru	Superintendencia Nacional de Aduanas y de Administración Tributaria - Gobierno del Peru
Uruguay	Direccion General Impositiva - Republica Oriental del Uruguay
Venezuela	Servicio Nacional Integrado de Administracion Aduanera y Tributaria



Scope of work

Scope of work, Project Eos

- Our work will consist of:
 - Analysis of Legal domestic sales data.
 - Desktop research and analysis of consumer research.
 - Analysis of corroborative data sources and consumption estimates.
 - One phone interview and one review call with the management team in each country cluster/sub-region and review of additional data provided.
 - Production of final report.
- As discussed with you, we envisage that there will be 7 priority countries, being Argentina and Paraguay (1 main point of contact), Brazil, Canada, and Central America countries (1 main point of contact) and Colombia, the Dominican Republic, and Mexico (1 main point of contact).
- Our final report will comprise the following sections:

Executive Summary

Highlights (1 page) of main key facts ascertained during the report, including countries of study, total
volume and percentage of C&C in the study, and associated total tax losses and countries with the
highest level of C&C consumption, along with key brands and countries of origin

Regional overview

- Key outputs (5-10 pages) covering:
 - Map showing price differences across the region
 - Graphs highlighting key C&C countries of consumption, overall C&C, ND(L), and under declaration volumes
 - Spotlight on key countries of origin (likely to be Paraguay and Panama) and key flows of illicit cigarettes (to and from the covered countries)
 - Spotlight on key brands / trademark owners
 - Estimate of associated tax losses
 - List of key sources used



Scope of work

Individual country reports

- Key outputs (2-3 pages per country) covering:
 - Map showing country and key inflows / outflows and price differences between each country with key highlights and tax losses
 - Table showing total consumption volumes
 - Note of alternative measurements
 - Text limited to headlines for each page
 - Stacked bar (or similar format) showing C&C by country of origin and brand
 - Stacked bar (or similar format) showing ND(L) by country of origin and brand
 - Associated tax losses
 - List of key sources used

Annexes

 A very short methodology section covering a description of the methodology and a list of the key sources used.





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