KPMG

Project SUN

A study of the illicit cigarette market in the European Union, Norway and Switzerland

2017 Results
Methodology and Appendices

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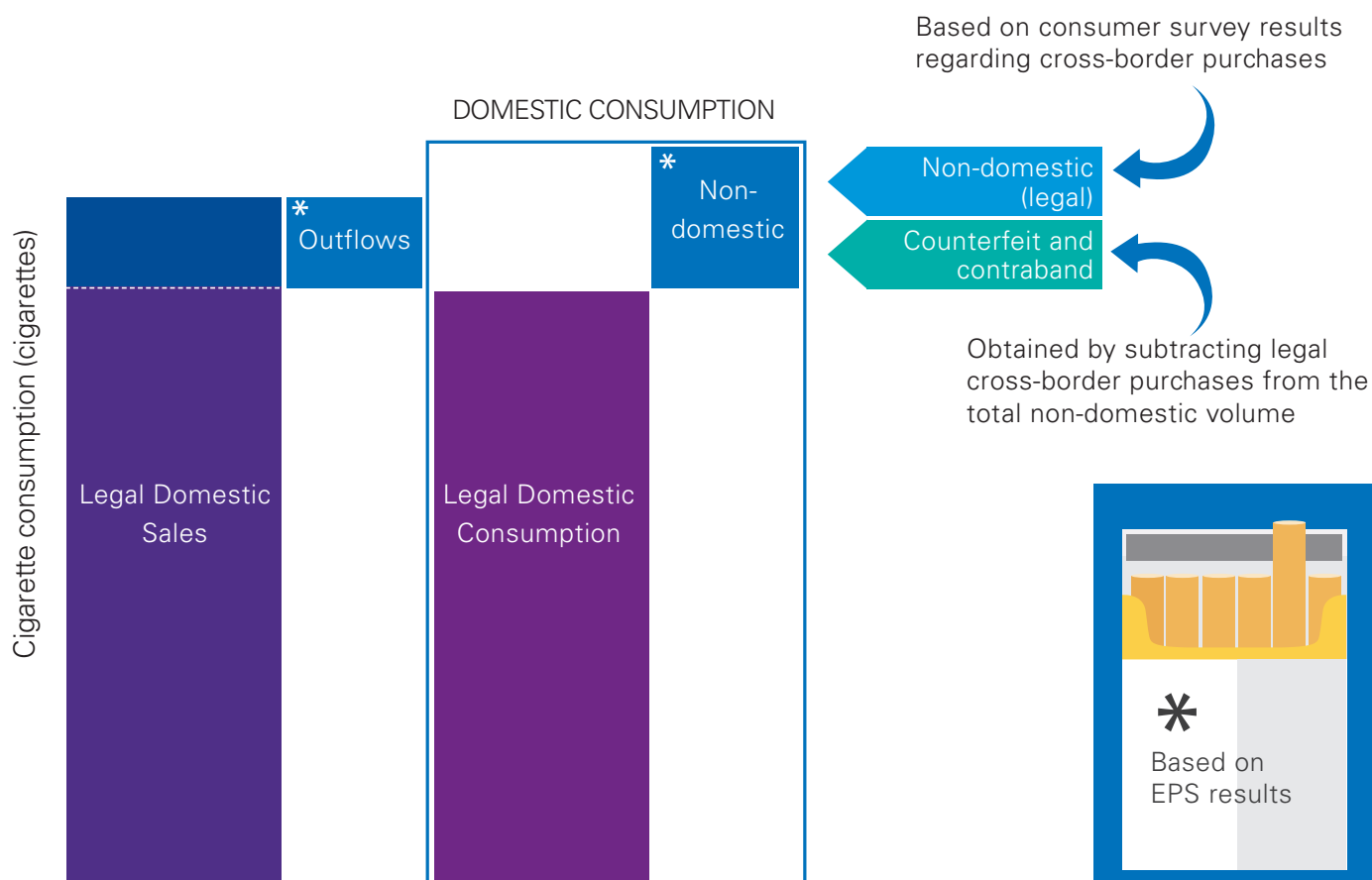
Methodology

Overview

KPMG has developed and refined its methodology for quantifying counterfeit and contraband incidence across the 28 EU markets since 2006, with Norway and Switzerland included in the study since 2014	**The methodology has been tested extensively and refined to ensure that it delivers the most robust and justifiable results possible** • Our approach integrated multiple sources and custom-built analytical tools • In 2017, Project SUN was commissioned by the Royal United Services Institute (RUSI). RUSI contracted this work with funding from British American Tobacco and Philip Morris International destined for its broader illicit trade work. As part of this, RUSI has also produced an Occasional Paper to shed light on some of the main organised crime dynamics accompanying the trends revealed by the KPMG data. In 2016, similarly, RUSI commissioned Project SUN with funding from British American Tobacco, Philip Morris International and Imperial Tobacco Limited destined to support its broader illicit trade research. Prior to this, between 2013-2015, Project SUN was commissioned jointly by the four major tobacco manufacturers (British American Tobacco plc, Imperial Tobacco Limited, JT International SA and Philip Morris International Management SA). KPMG LLP were previously commissioned by Philip Morris International Management SA to produce reports covering 2006 to 2012 ('Project STAR'). This extension has provided access to previously unavailable data sources including Legal Domestic Sales data and proprietary consumer surveys owned by manufacturers who participated for the first time in 2013. These data sources have been used in the 2013, 2014, 2015 and 2016 reports
The methodology is based primarily on objective evidence from LDS and EPS results, which are inputted to the bespoke EU Flows Model	**The KPMG EU Flows Model is a dynamic, iterative model that is based on LDS and EPS results and is used to estimate overall manufactured cigarette volumes** • The KPMG EU Flows model has been developed by KPMG to specifically measure inflows and outflows of cigarettes between EU countries for the purpose of this report. It is an iterative data driven model that uses LDS and EPS results to estimate the volume of non-domestic outflows and inflows to and from each EU Member State, Norway and Switzerland • LDS are the starting point of the methodology, from which outflows of legal sales to other countries are then subtracted to estimate legal domestic consumption • Non-domestic inflows from other countries are then added in to give an estimate for the total consumption within a market • This methodology has been developed by KPMG for the manufactured cigarettes market specifically. For that reason, an assessment of the OTP market (both legal and illicit) is excluded from the scope of this report
EPS results provide a robust indication of the incidence of non-domestic and counterfeit packs and country of origin	**EPS relies purely on physical evidence, avoiding the variability of consumer bias found in interview-based methods** • The EPSs were conducted by independent market research agencies on a consistent basis across all the EU markets, Norway and Switzerland, allowing for direct comparison of data and the identification of inflows and outflows between all of the countries analysed • Over 500,000 packs were collected in 2017 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 later in this document
Tourism & travel trends are used to quantify legal non-domestic cigarette purchases	**Tourism and travel data provided by publicly-available 3rd party sources are used to estimate genuine, legal non-domestic tobacco purchases (including cross-border shopping) in each market based on inbound visitor inflows** • United Nations World Tourism Organisation[1] data is the primary source used to identify travel trends, supplemented with other publicly available data • European Commission releases[2] are used to calculate changes in the weighted average price of a pack of cigarettes between countries. Where flows come into a country from a higher priced country they are assumed to be 100% legal

(1) UNWTO (2) EC Excise Duty Tables, January 2018 (Part III – Manufactured Tobacco)

Methodology - Overview

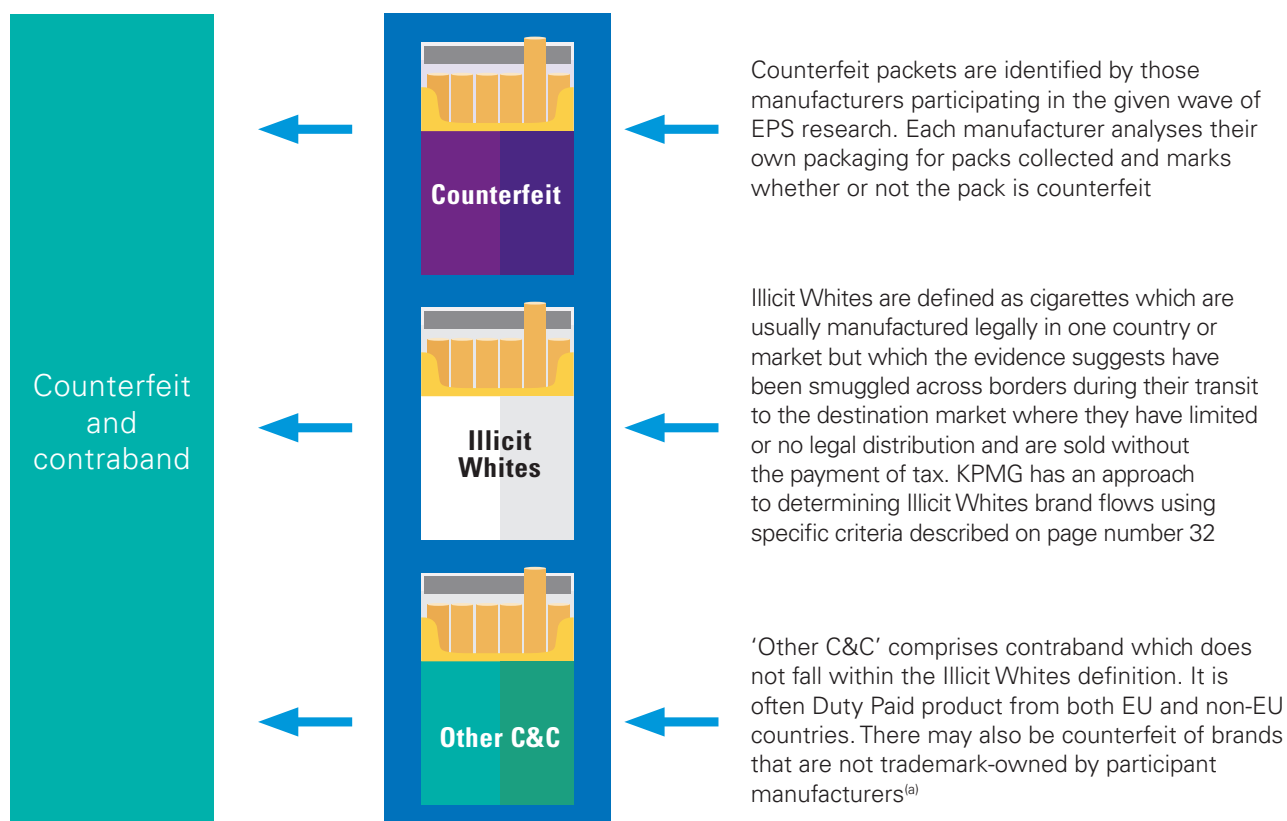|	

There are some specific limitations in the Project SUN methodology	Given the complexity of measuring C&C, we recognise there are some limitations within the methodology
	
	• There are broadly two types of limitations: scope exclusions and source limitations
	
	   - scope exclusions include areas which cannot or have not been accounted for in our scope of work and approach, such as geographic, brand (non-participating manufacturer counterfeit), category exclusions (OTP) and legal domestic product flows out of the EU
	
	   - source limitations include the availability of information and the potential errors inherent with any data sources such as sampling criteria, 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 minor adjustment • In nearly all instances, overall country results and flows from the KPMG EU Flows Model appeared reasonable, however, in a limited number of instances, specific adjustments were made to country-to-country flows where additional data provided by manufacturers allowed for further refinement of the analysis

Project SUN uses LDS, EPS results and other consumer research to estimate the volume of C&C cigarettes consumed in the EU

The Project SUN methodology was developed by KPMG. It has been deployed on a consistent basis since 2006, enabling comparisons to be made between counterfeit and contraband volumes from year to year.

Methodology - Overview

Counterfeit and contraband is allocated into three constituent parts: Counterfeit, Illicit Whites and Other C&C

Counterfeit and contraband

Counterfeit packets are identified by those manufacturers participating in the given wave of EPS research. Each manufacturer analyses their own packaging for packs collected and marks whether or not the pack is counterfeit

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 has an approach to determining Illicit Whites brand flows using specific criteria described on page number 32

'Other C&C' comprises contraband which does not fall within the Illicit Whites definition. It is often Duty Paid product from both EU and non-EU countries. There may also be counterfeit of brands that are not trademark-owned by participant manufacturers[a]

Understanding the differences between OLAF seizure data and Project SUN results

Over 50% of product identified within the SUN report is defined as 'other C&C'. However, when compared to OLAF seizures data, 'Other C&C' accounts for 2%-3% of total seizures volumes[1]

There are several possible explanations for the different findings:

- Illicit Whites brand flows and counterfeit cigarettes tend to be transported in large volumes

  - Illicit Whites brand flows are not subject to the same high level of supply chain controls as those of genuine international brands. This means that product can be legally manufactured in one country, mainly outside of the EU, imported and distributed illegally in bulk within another country. This results in high volume seizures

  - Counterfeit cigarettes are usually seized within transport containers or are identified during law enforcement raids on the factories in which the product is manufactured. This often results in large volumes of counterfeit cigarettes being seized

- The remaining 'other C&C' is generally only available through legitimate Point of Sale locations as a Duty Paid product in a country. This means it is generally not transported in high volumes, resulting in the flow entering countries over and above legal allowances. This high frequency but low volume approach, sometimes referred to as "bootlegging", makes detection more difficult

- As the vast majority of 'other C&C' seems to be 'bootlegged', even if the smuggled product is seized by law enforcement agencies, volumes are usually below 50,000 cigarettes and are likely not notified to OLAF to be included in their seizure data
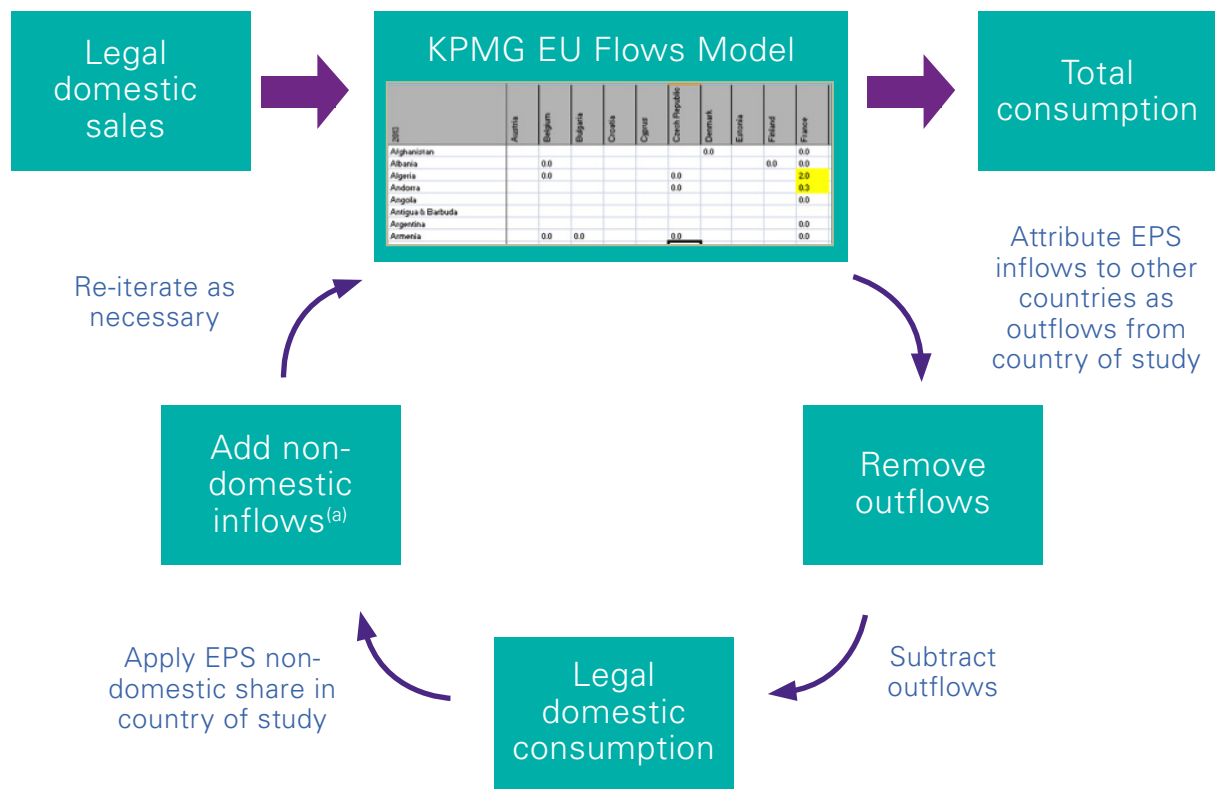
Methodology – KPMG EU Flows Model

Methodology – KPMG EU Flows Model

Primary information sources and tools – EU Flows Model

The KPMG EU Flows Model is a dynamic, iterative model that is principally based on LDS and EPS results

- LDS volumes are the starting point of the model from which outflows of legal sales to other countries are then subtracted to estimate legal domestic consumption in a market

- Non-domestic inflows from other countries are then added back in 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 28 EU countries, Norway and Switzerland

- EPS results provide a measurement of the share of non-domestic packs by country of origin in all markets

  - EPS results provide a consistent source across all 30 markets of non-domestic packs by country of origin from which we can calculate total product outflow from each market to the other 29 markets

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Note: (a) The methodology to identify the ND(L) and C&C components of non-domestic flows is explained overleaf

Methodology – LDS

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Methodology – LDS

LDS data was provided to KPMG by the industry and was built up on an individual brands basis

- Where available, each manufacturer's LDS estimates were used for both the total market volumes and for their own sales

- Before 2013, Nielsen estimates were used for all non-PMI brands. The availability of sales by country and brand from all four manufacturers starting in 2013 has facilitated a more detailed analysis of LDS which has been added to the KPMG EU Flows model.

Manufacturer's estimate of their own brands used to model total sales

Example LDS methodology [1](a)

Country 1	BAT		PMI		Section	Combined	
Brand name	LDS (bn sticks)	Market share (%)	LDS (bn sticks)	Market share (%)		LDS (bn sticks)	Market share (%)
Brand A			5.25	20.8%	PMI	5.25	21.0%
Brand B	4.50	18.4%			BAT	4.50	18.0%
Brand C			3.80	15.2%	PMI	3.80	15.2%
Brand D			3.10	12.5%	PMI	3.10	12.4%
Brand E	2.40	9.7%			BAT	2.40	9.6%
Brand F			2.20	8.8%	PMI	2.20	8.8%
Brand G	1.50	6.1%			BAT	1.50	6.0%
Brand H			1.00	4.0%	PMI	1.00	4.0%
Brand I			0.75	3.0%	PMI	0.75	3.0%
Brand J	0.50	2.0%			BAT	0.50	2.0%
Total market (bn sticks)	24.50		25.30			25.00	100.0%

Modelled LDS figure compared to manufacturer estimates

Where appropriate, nationally agreed external estimates of LDS have been used instead of the above approach

- In certain markets, publicly available estimates of legal manufactured cigarette sales are widely used by manufacturers, industry participants, government bodies and non-governmental organisations

- In these instances, it has been deemed more appropriate to incorporate these recognised estimates of LDS in the KPMG EU Flows model. This is the case with:

  - Bulgaria: figure reported by the Customs Agency

  - Spain: figure reported by the Tobacco Commissioner

Note: (a) Example volumes included do not reflect actual sales data and are for illustrative purposes
Sources: (1) LDS data provided by all both manufacturers

Methodology – EPS

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Methodology – EPS

Overview	**EPS is a research system of collecting discarded empty cigarette packs, the results of which are used to estimate the share of domestic (duty paid), non-domestic (non-duty paid) and counterfeit packs in each of the markets** • EPSs were conducted by independent market research agencies (e.g. Nielsen, Ipsos or MSI) in each of the countries sampled. The surveys are commissioned by the participating manufacturers and the sampling plan is designed by the agencies in conjunction with the manufacturers to help make the sampling plan statistically representative within each given country • Results were based on a large sample of packs collected in various population centres throughout the countries, although the exact collection plan differs by country. Accuracy and credibility of results is driven by sound design of the sampling plan • Results are not subject to respondent behaviour and are therefore less prone to sampling errors than many other alternative methodologies • Results reflect actual overall non-domestic share and provide a good snapshot of brands consumed
Process	**EPSs rely purely on physical evidence, avoiding the variability of consumer bias in interview-based methods** • The independent market research agencies randomly collect empty packs of any brand and market variant from streets and easy access bins • Homes and workplaces are not visited and the collection route specifically excludes sports stadia, shopping malls and stations, or any other locations where non-domestic incidence is likely to be higher as a result of a skewed population or demographic visiting these areas • Once packs are collected, they are sorted by manufacturer and brand and the number of packs with domestic versus non-domestic tax stamps counted to determine the proportion of packs that did not originate from that jurisdiction (including Duty Free variants) – In cases where tax stamps are not shown on a packet, health warning and packaging characteristics are used to determine the source market and where no markings are found they are recorded as unspecified • For brands belonging to the major manufacturers packs are sent to the manufacturers for analysis to determine which are genuine and which are counterfeit. Only the manufacturers can determine this, based on inks, paper and other characteristics • KPMG used the results of the EPSs to extrapolate overall consumption in the market using LDS and the percentage of non-domestic cigarettes in the market as found through EPSs to calculate overall consumption • The process is repeated across all countries of study using a model which iterates the level of non-domestic cigarettes until all inflows and outflows are equal
Coverage	**Coverage per market is tailored to the size of the market, the likelihood of high non-domestic incidence and the manufacturers' share of the legal market** • Small surveys (300-4,999 packs): Cyprus, Luxembourg, Malta, Portugal, Slovenia, Sweden • Medium surveys (5,000-9,999 packs): Belgium, Croatia, Denmark, Estonia, Latvia, Norway, Slovakia, Switzerland • Large surveys (10,000 packs or more collected): Austria, Bulgaria, Czech Republic, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Netherlands, Poland, Spain, Romania, UK

Methodology – EPS

Calculation of non-domestic incidence on a stick basis in 2013-2017

Overview	**Prior to 2012, the KPMG EU Flows Model assumed that all packs collected were the same size (20 cigarettes). In 2012 the model was updated to take into account different pack sizes, and this approach has been continued in 2013, 2014, 2015, 2016 and 2017** • This update to the approach was made to help give a more accurate result for the volume flows between EU countries, as pack sizes vary on a country by country basis
Process	**EPS results provide the number of cigarettes in each packet** • It is therefore possible to calculate the total number of sticks accounted for by the pack collection despite the different size packs, hence improving the overall accuracy of volume estimations
Impact	**The effect of this change on non-domestic incidence was dependant upon whether the typical domestic pack size was greater or less than the average pack size of 20 on a country by country basis** • The average pack contains 20 cigarettes • In countries where the average domestic pack size was less than 20 cigarettes (for example, most LDS in the UK and Italy were of 10 or 20 cigarette packs, giving an average domestic pack size of less than 20 cigarettes, and in Denmark domestic cigarettes were sold in packs of 19), then the conversion to a sticks basis is likely to decrease the proportion of domestic cigarettes in the EPS sample, giving a higher non-domestic incidence than estimating on a pack basis • In countries where the average domestic pack size was greater than 20 cigarettes (for example in Luxembourg domestic packs typically contain 20, 25 or 30 cigarettes), then the conversion to a sticks basis was likely to increase the proportion of domestic cigarettes in the EPS sample, giving a lower non-domestic incidence than estimating on a pack basis

Methodology – EPS

EPS example sample plan

Empty Pack Survey Methodology

| 1. Population centre selection | 2. Pack collection | 3. Pack processing | 4. Pack analysis |

- The empty pack survey is conducted in a consistent way for each country. It follows a four step process:

1. Population centre selection

- The population centres chosen are representative of the country of study. Each population centre is divided into five sectors (north, south, east, west and centre). Each sector is subdivided into neighborhoods of the same size (250 meter radius)

2. Pack collection

- Each neighbourhood is assigned a number of discarded packs for collection based on the size of the overall population centre in comparison with the national population. For example, in France 118 cities are sampled in each wave of 11,500 packs. Of all packs collected, 2320 are collected in Paris, which represents over 10% of the packs collected and sample sizes. The neighbourhoods sampled include residential, commercial and industrial areas

- A minimum number of packs are collected from each neighbourhood. Each neighbourhood has a specific starting point and a fixed route. The collectors accumulate as many empty packs as possible within each neighbourhood regardless of the quota requested in the sampling plan. Packs are collected from any manufacturer regardless of whether they participate in the survey. Collectors revisit the neighbourhood as many times as necessary in order to achieve the required quotas

- The training of collectors includes an explanation of the methodology and running of pilots prior to the collection. Each team of collectors is supervised by a team leader

- An additional 5% extra packs are collected in case there are issues with the existing sample

3. Pack processing

- The empty packs are placed into bags and stored at a safe collection point. Packs are discarded if they do not meet the survey quality requirements (e.g. torn, unreadable, rotten). Each survey qualified pack is cleaned and placed in a transparent nylon bag with a zipper that carries a unique barcode label indicating the serial number attributed to the pack (corresponding to the data sheet). The details are then entered into the survey "Data Sheet". The packs are delivered to the participating manufacturers in the given wave of EPS in a way that enables easy processing and identification

- Packs where brands are unknown are sent to the participating manufacturers to assess whether they are Illicit Whites

4. Pack analysis

- The participating manufacturers check the packets belonging to their brands to identify counterfeit and inform the agency who collates and updates the data sheets

- These data sheets are finally provided to KPMG and analysed to calculate the non-domestic incidence and contraband and counterfeit volumes

Methodology – EPS

EPS adjustments

Adjustments are made to the EPS in the form of reweighting different packs or quarterly surveys, based on additional evidence provided by manufacturers. Adjustments are made to correct for issues identified in the EPS. The main issues identified are covered below:

EPS	Explanation	Method	Countries where adjustment made
1. Brand oversampling	Domestic packs collected by brand in the EPS deviate significantly from the domestic brand shares	• Premium brands may be oversampled which we can check through a comparison with the LDS • KPMG assumes that an oversampling of premium brands domestically will result in an oversampling of non-domestic brands. As a result, it down-weights all packs from this brand (domestic and non-domestic) by the domestic market share	Austria, Belgium, Finland, France, Hungary, Ireland, Luxembourg, Netherlands, Norway, Slovakia, Slovenia, Sweden and Switzerland
2. Adjustments to specific country flows	The flows from some countries appear to have been over or under-sampled based on the timing of the survey, areas sampled, or sales from other countries	• Adjustments are made to survey results based on the time of year that the survey was undertaken to make it more reflective of the whole year • For example, if a survey is undertaken before a price increase which may impact cross border sales, this is likely to increase the volume of packs collected for the country. In this case, where there is more than one survey, an adjustment can be made by KPMG to make one survey result account for a higher proportion of the overall year compared with others • Seasonal adjustments can also be made to take account of increased tourism and travel between countries during the summer months. In France, an adjustment is made to take account of increased traveller numbers to Spain between June and September, when the EPS is undertaken in May and November	France, Luxembourg and UK
3. Pack size adjustment	Certain domestic pack sizes are often over-sampled, resulting in an overstating of non-domestic product	• In the UK and Italy where 10-packs are a sizeable proportion of the market, more 10-packs than 20-packs are often collected. The impact of this is to over-report the number of non-domestic sticks • The domestic 10-packs and other pack sizes collected are re-weighted by KPMG to ensure that they are representative of the domestic market	Italy and UK
4. Sweden "domestic whites" EPS adjustments	Addition of "domestic whites" volume to non-domestic consumption	• In Sweden an adjustment is made to the non-domestic percentage based on the amount of "domestic whites" as reported by HUI Research	Sweden

Methodology – EPS

EPS adjustments

Country	Sample dates	Packs	Number of cities	Adjustment	Impact
Austria	Q2: Apr-May Q4: Nov	13,000	24	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.08 billion of non-domestic Marlboro
Belgium	Q2: April Q4: Oct-Nov	5,600	18	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.06 billion of non-domestic Marlboro
Bulgaria	Q2: Apr-May Q3: Sep Q4: Nov	14,050	26	None	n/a
Croatia	Q4: Oct	3,000	8	None	n/a
Cyprus	Q4: Oct	1,000	4	None	n/a
Czech Republic	Q2: April Q4: Sep	21,004	30	None	n/a
Denmark	Q2: Mar-Apr	5,500	9	None	n/a
Estonia	Q2: April Q4: Sep-Oct	6,600	14	**Adjustment to country flows** Q2 EPS results were used to represent the first three quarters of 2016, and Q4 to represent the fourth quarter	C&C decreased from 0.22 billion to 0.18 billion
Finland	Q2: April Q4: Oct	12,000	14	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.03bn of non-domestic Marlboro
France	Q1: Feb-Mar Q2: Apr-May Q4: Oct-Nov	34,500	118	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share **Adjustment to country flows** a. Inflows from Spain were adjusted to reflect the tourism trend and border sales b. The Q4 sample appeared to overweight flows from Algeria that were not aligned to market conditions for the second half of the year	Reduction of 1.25bn of non-domestic Marlboro a. Inflows from Spain increased from 0.99 billion to 2.84 billion b. Inflows from Algeria decreased from 2.47 billion to 2.44 billion
Germany	Every month	189,210	45	None	n/a
Greece	Q2: April -May Q3: Sep	14,000	30	None	n/a
Hungary	Q2: May-Jun	19,905	53	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.01bn of non-domestic Marlboro
Ireland	Q2: Apr-May Q4: Oct	10,000	22	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.15bn of non-domestic Marlboro
Italy	Q1: Feb Q2: May-Jun Q3: Aug Q4: Oct-Nov	40,000	41	**10-pack adjustment** 4% of domestic packs collected were 10-packs whilst 0.4% of the market was represented by 10-packs, as a result the domestic 10-packs were down-weighted and the 20-packs were up-weighted, resulting in more domestic sticks and a lower percentage of non-domestic	Reduction of non-domestic share from 4.38% to 4.31%
Latvia	Q2: April Q4: Sep-Oct	9,800	25	None	n/a
Lithuania	Q2: April Q4: Sep	12,800	26	None	n/a

Methodology - EPS

EPS adjustments

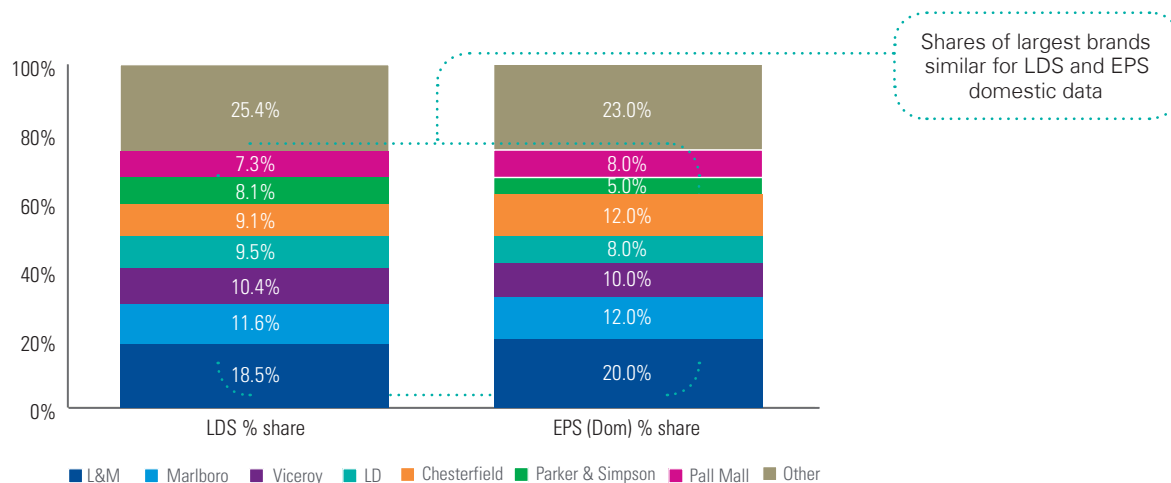| Country	Sample dates	Packs collected	Number of cities	Adjustment	Impact
Luxembourg	Q2: Apr Q4: Oct	400	2	**Brand adjustment:** Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.004bn of non-domestic Marlboro
Malta	Q4: Oct	1,000	8	None	n/a
Netherlands	Q2: Apr-May Q4: Sep-Oct	14,000	50	**Brand adjustment** Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.19bn of non-domestic Marlboro
Norway	Q2: May-Jun	5,000	8	**Brand adjustment:** Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.09bn of non-domestic Marlboro
Poland	Q2: April Q3: Aug Q4: Oct-Nov	51,000	70	None	n/a
Portugal	Q2: April-May	3,000	10	None	n/a
Romania	Q1: Jan-Apr Q2: May Q3: Jul-Oct Q4: Nov-Dec	15,148	41	None	n/a
Slovakia	Q2: April	6,400	39	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.01bn of non-domestic Marlboro
Slovenia	Q4: Oct	3,000	8	**Brand adjustment** Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.01 billion of non-domestic Marlboro
Spain	Q2: April- May Q4: Oct-Nov	30,000	58	**Brand adjustment**: Marlboro was over-sampled and therefore re-weighted according to its domestic share"	Reduction of 0.05 billionof nondomestic Marlboro
Sweden	Q2: Apr	10,000	29	**Addition of domestic whites** Addition of "domestic whites" as reported by HUI Research in Sweden **Brand adjustment** Marlboro was over-sampled and therefore re-weighted according to its domestic share	0.5% was added to the overall non-domestic consumption in order to include "domestic whites Reduction of 0.05bn of non-domestic Marlboro

Methodology – EPS

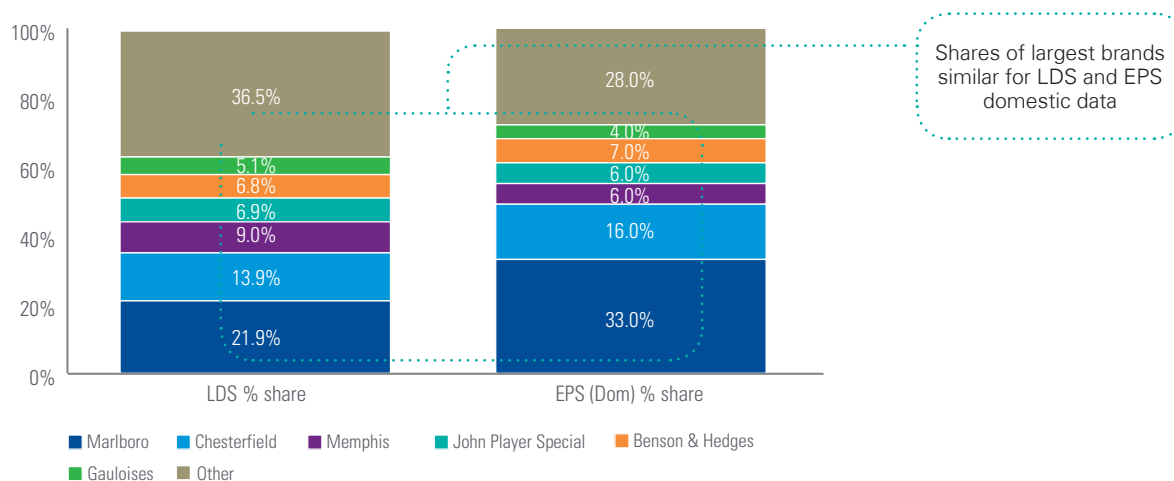| Country	Sample dates	Packs collected	Number of cities	Adjustment	Impact
Switzerland	Q2: Jun	6,600	25	**Brand adjustment** Marlboro was over-sampled and therefore re-weighted according to its domestic share	Reduction of 0.04bn of non-domestic Marlboro
UK	Q1: Mar Q2: Apr-May Q3: Jul-Aug Q4: Sep-Oct	50,800	105	**Pack size adjustment** Whilst 10-packs represented 21% of the market, 24% were collected in the EPS. Pack sizes were therefore re-weighted to ensure that they are representative of the domestic market. This resulted in a lower level of non-domestic cigarettes. **Adjustments to country flows** Inflows from Spain were adjusted as the EPS did not account for the summer months where sales are higher. This adjustment was made based on the increase in sales volumes provided by industry participants	Reduction of non-domestic share from 28.90% to 28.84% Inflows from Spain increased from 0.58 bn to 1.49 bn

Methodology - EPS

As collateral for the EPS, the brand shares of domestic origin packs collected during the EPSs closely reflect the brand shares seen in the LDS data

- If brand shares of domestic origin packs closely reflect the brand shares seen in LDS, EPSs are considered reflective of actual consumption in a market

- This provides additional confidence that the packs identified as non-domestic also fairly reflect the volume and brands actually consumed in that market (see exceptions on next page)

- As the EPSs collect any brand and market variant, there is no bias towards any specific brand being collected

- Two examples are shown below, for Poland and Austria

Comparison of LDS and domestic EPS brand share, using illustrative data – Poland[a][1][2]

Shares of largest brands similar for LDS and EPS domestic data

Legend: L&M, Marlboro, Viceroy, LD, Chesterfield, Parker & Simpson, Pall Mall, Other

	LDS % share	EPS (Dom) % share
Other	25.4%	23.0%
Pall Mall	7.3%	8.0%
Parker & Simpson	8.1%	5.0%
Chesterfield	9.1%	12.0%
LD	9.5%	8.0%
Viceroy	10.4%	10.0%
Marlboro	11.6%	12.0%
L&M	18.5%	20.0%

Comparison of LDS and domestic EPS brand share, using illustrative data – Austria[a][1][2]

Shares of largest brands similar for LDS and EPS domestic data

Legend: Marlboro, Chesterfield, Memphis, John Player Special, Benson & Hedges, Gauloises, Other

	LDS % share	EPS (Dom) % share
Other	36.5%	28.0%
Gauloises	5.1%	4.0%
Benson & Hedges	6.8%	7.0%
John Player Special	6.9%	6.0%
Memphis	9.0%	6.0%
Chesterfield	13.9%	16.0%
Marlboro	21.9%	33.0%

Note: (a) Number of 'top' brands shown chosen to reflect approximately two thirds of the total market on an LDS and EPS basis
Sources: (1) Analysis of LDS data provided by participating manufacturers in the given wave of EPS
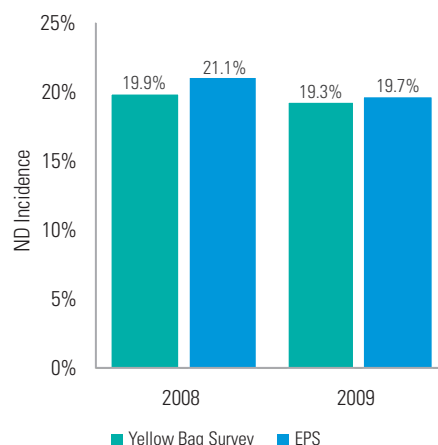(2) Independent agency Empty Pack Surveys, 2006-2014
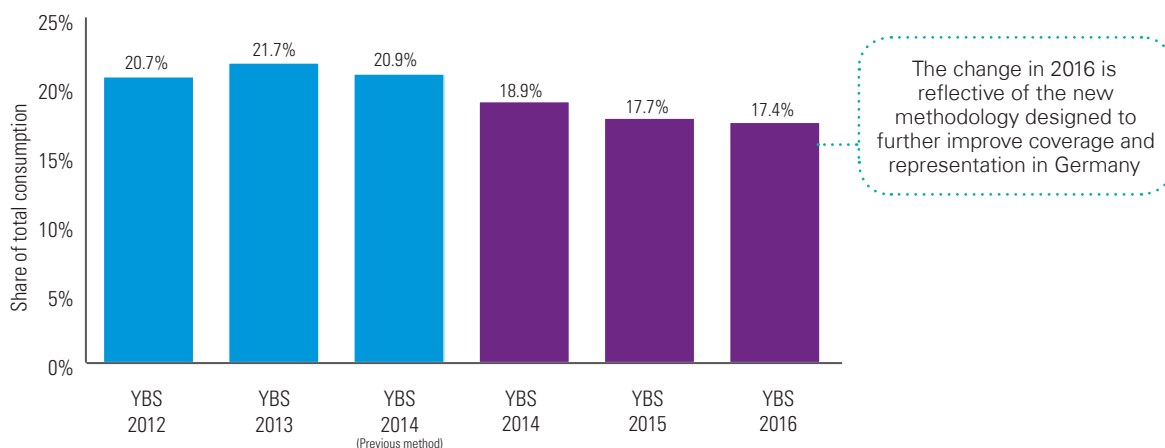
Methodology – EPS
EPS comparison

Validation of empty pack survey analysis

- A criticism of the empty pack survey is that it samples discarded cigarette packs rather than household waste and therefore significantly overstated non-domestic incidence. Sampling for household waste is impractical in most countries, however it is available in Germany. The household waste survey, known as a Yellow Bag Survey (YBS), is possible in Germany because household waste is sorted, mainly for the purposes of recycling, which makes it possible to separate cigarette packs from other waste

- The Yellow Bag Survey collects 500 packs a month per centre from 24 waste disposal centres throughout Germany. This resulted in over 120,000 weighted packs collected throughout the year, typically a larger sample than an empty pack survey. A comparison was undertaken by KPMG between different methodologies in 2008 and 2009

- In addition to the benefits of the higher sample size, collections from waste disposal centres resulted in packs coming from both household waste and public bins, demonstrating that consumption of illicit tobacco in the home is unlikely to be significantly different to consumption in public places. This helps to address a common criticism of the EPS

- This enables us to compare the results of the Yellow Bag Survey with the EPS to understand differences in the amount of non-domestic product that is captured

Comparison of EPS and Yellow Bag Survey, Germany - 2008-2009[1][2][a]

Bar chart — ND Incidence:
- 2008: Yellow Bag Survey 19.9%, EPS 21.1%
- 2009: Yellow Bag Survey 19.3%, EPS 19.7%

Legend: Yellow Bag Survey / EPS

Germany historical Yellow Bag Surveys[2][a]

Bar chart — Share of total consumption:
- YBS 2012: 20.7%
- YBS 2013: 21.7%
- YBS 2014 (Previous method): 20.9%
- YBS 2014: 18.9%
- YBS 2015: 17.7%
- YBS 2016: 17.4%

The change in 2016 is reflective of the new methodology designed to further improve coverage and representation in Germany

Improvement of German pack analysis in 2014, 2015, 2016 and 2017

- In 2014 the German pack collection was refined as fewer waste disposal centres were providing pack collections. Despite weighting the pack collections from each disposal centre according to the population of the region, some regions were not being represented

- As a result, a pack collection was started in 2014 in areas with no coverage from waste recycling centres. This has resulted in a much greater proportion of the German population covered, from 40% to close to 100% of the population

- The result of the change in methodology has been to reduce the overall non-domestic incidence by approximately 2 percentage points compared to the collection in previous years

Methodology – Non-domestic legal analysis

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic Legal analysis and assumptions

Volume estimated by consumer research and additional analysis as discussed below

Non-domestic legal (ND(L)) ← **Non-domestic inflows (ND)** → **Counterfeit and contraband (C&C)**

$$ND - ND(L) = C\&C^{(a)}$$
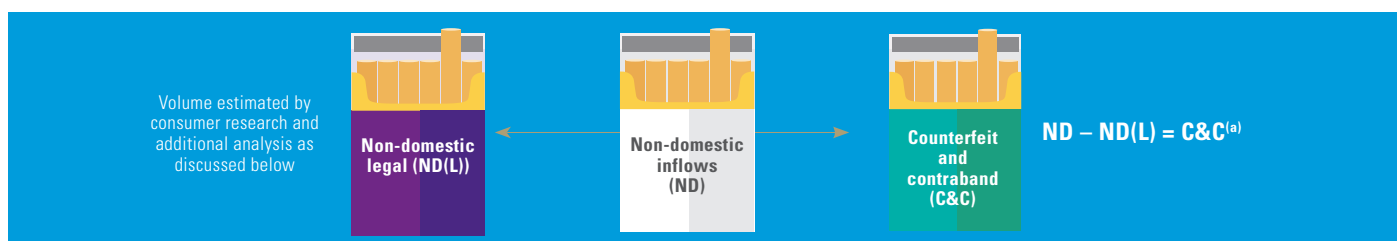
ND(L) was determined by analysis of travel trends, border crossings and cigarette pricing data
C&C volumes formed the remaining ND balance after subtracting ND(L) from total non-domestic

- ND(L) was calculated using 2 methods:

1) Countries where ND(L) is 100% of total ND

- Non-domestic product found in Empty Pack Surveys from higher priced inbound tourist/visitor countries was categorised as legal

2) Use of travel flows analysis

- Business and tourism travel data from the World Tourism Organization (UNWTO), national statistics offices and other publically available sources were used to calculate the number of trips made by travellers over the age of 18

- This total number of trips was then multiplied by the average smoking prevalence of the country of origin to calculate the total number of trips where cigarettes are purchased. Smoking prevalence data was provided by Euromonitor

- It was assumed that the number of packs purchased per trip is equal to the Duty Free allowance, or the indicative legal limit for intra-EU travel

- The EPS and EU Flows model form the basis of all non-domestic analysis. As a result, where the ND(L) calculation was greater than 100% of the flow calculated by the EU Flows model it is capped at the volume generated by the EU flows model

- In certain cases travel data may not capture the extent of cross-border travel where such travel does not entail an overnight stay. Where this is a material source of cross-border flows, it is estimated based on regional border populations and travel retail sales data

1 Countries where ND(L) is 100% of total

| ND(L) is 100% of total non-domestic | => | ND from EU Flows model | **Total ND(L) (sticks)** |

2 Travel flows analysis

| Total trips where cigarettes purchased | x | Cigarettes per trip | **Total ND(L) (sticks)** |

Example using Illustrative data

1 Countries where ND(L) is 100% of total

Country of origin	ND (bn sticks) [1]		ND(L) (bn sticks)	% of ND
Belgium	0.78		0.78	100%

2 Travel flows analysis

Country of origin	ND (bn sticks) [1]	Number of journeys (m) [2][3]	% of Population 18+ [2]	Smoking prevalence	Trips where cigarettes purchased (m)	Cigarettes per trip [b]	ND(L) (bn sticks)	% of ND
UK	0.62	8.63	78.6%	19.7	1.34	200	0.27	43%

Notes: (a) KPMG calculates the split between C&C and ND(L) by calculating the ND(L) volume and subtracting from the total inflows
(b) Unless stated otherwise it is assumed that returning travellers purchase the indicative maximum allowed
Sources: (1) KPMG EU Flows Model (2) UN WTO Tourism Factbook 2008-14 (3) Euromonitor
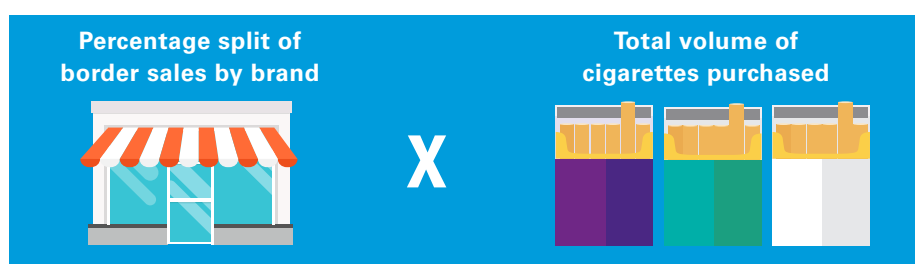
Methodology – Non-domestic legal analysis

Non-domestic Legal brand split analysis and assumptions

Illustrative example of ND(L) by brand approach

Border sales data is derived from sales of cigarettes in retail outlets in bordering regions

ND(L) brand split

Having determined the volume of ND(L) using travel statistics, the brand share of each ND(L) inflow was determined by an analysis of brands sold at border shops

- Border sales data was provided to KPMG by the manufacturers who participated in the EPS in a range of formats:
  - Sales data from participants from shops on the border – which can be either the total market, or restricted to the brands that each participant sells
  - Sales data by region bordering the destination country which is often collated by Nielsen for some of the larger countries
  - Any other individual studies that participants have made which can help the overall border sales

- KPMG used all data sources available to come up with a fair representation of the overall brand split, prioritising independent border sales data provided by a third party for all brands where possible

- These border sales are used to calculate the percentage split of brand sales. It is not used in order to calculate volumes

- Where the ND(L) flow was considered 100% of the total flow, all brands from that country were allocated to ND(L) and border sales data was not analysed

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Austria		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Czech Republic	Outbound	Figure based on tourism statistics and border region consumption analysis							0.53bn
	Inbound								
Slovenia	Outbound	All flows considered legal							0.34bn
	Inbound								
Hungary	Outbound	All flows considered legal							0.31bn
	Inbound								
Slovakia	Outbound	Figure based on tourism statistics and border region consumption analysis							0.06bn
	Inbound								
Others									0.32bn
Total									**1.55bn**

Belgium		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Luxembourg	Outbound	All flows considered legal							0.09bn
	Inbound								
Poland	Outbound	0.30m	80%	19%	0.05m	40	800	0.04bn	0.04bn
	Inbound	0.42m	82%	24%	0.08m	2	40	0.003bn	
Netherlands	Outbound	All flows considered legal							0.04bn
	Inbound								
Germany	Outbound	All flows considered legal							0.03bn
	Inbound								
Others									0.29bn
Total									**0.49bn**

Bulgaria		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Turkey	Outbound	All flows considered legal							0.02bn
	Inbound								
United Arab Emirates	Outbound	Figure based on tourism statistics and border region consumption analysis							0.02bn
	Inbound								
Serbia	Outbound	0.12m	83%	32%	0.03m	10	200	0.01bn	0.01bn
	Inbound	0.51m	83%	33%	0.14m	2	40	0.01bn	
Greece	Outbound	All flows considered legal							0.01bn
	Inbound								
Others									0.14bn
Total									**0.19bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Croatia									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Bosnia And Herzegovina	Outbound	0.09m	82%	28%	0.02m	10	200	0.004bn	0.009bn
	Inbound	0.40m	84%	35%	0.12m	2	40	0.005bn	
Czech Republic	Outbound								0.006bn
	Inbound			All flows considered legal					
Serbia	Outbound	0.08m	82%	28%	0.02m	10	200	0.004bn	0.005bn
	Inbound	0.12m	83%	33%	0.03m	2	40	0.001bn	
Italy	Outbound								0.004bn
	Inbound			All flows considered legal					
Others									0.019bn
Total									**0.043bn**

Cyprus									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Russia	Outbound								0.007bn
	Inbound			All flows considered legal					
Greece	Outbound								0.004bn
	Inbound			All flows considered legal					
Bulgaria	Outbound								0.003bn
	Inbound			All flows considered legal					
Turkey	Outbound								0.001bn
	Inbound			All flows considered legal					
Others									0.012bn
Total									**0.027bn**

Czech Republic									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Poland	Outbound								0.037bn
	Inbound			All flows considered legal					
Slovakia	Outbound								0.020bn
	Inbound			All flows considered legal					
Germany	Outbound								0.009bn
	Inbound			All flows considered legal					
Bulgaria	Outbound								0.007bn
	Inbound			All flows considered legal					
Others									0.095bn
Total									**0.168bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Denmark		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Sweden	Outbound			All flows considered legal					0.066bn
	Inbound								
Poland	Outbound			All flows considered legal					0.022bn
	Inbound								
Spain	Outbound			All flows considered legal					0.014bn
	Inbound								
Czech Republic	Outbound			All flows considered legal					0.012bn
	Inbound								
Others									0.181bn
Total									**0.295bn**

Estonia		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Latvia	Outbound			All flows considered legal					0.029bn
	Inbound								
Russia	Outbound	0.44m	81%	22%	0.08m	2	40	0.003bn	0.005bn
	Inbound	0.17m	80%	35%	0.05m	2	40	0.002bn	
Finland	Outbound			All flows considered legal					0.004bn
	Inbound								
Lithuania	Outbound			All flows considered legal					0.002bn
	Inbound								
Others									0.009bn
Total									**0.049bn**

Finland		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Estonia	Outbound	0.97m	81%	15%	0.11m	40	800	0.091bn	0.091bn
	Inbound	0.00m	81%	22%	0.00m	2	40	0.000bn	
Russia	Outbound	1.26m	81%	15%	0.15m	10	200	0.029bn	0.032bn
	Inbound	0.22m	80%	35%	0.06m	2	40	0.002bn	
Sweden	Outbound			All flows considered legal					0.018bn
	Inbound								
Latvia	Outbound	0.17m	81%	15%	0.02m	40	800	0.016bn	0.016bn
	Inbound	0.02m	82%	27%	0.005m	2	40	0.002bn	
Others									0.164bn
Total									**0.321bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

France		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Spain	Outbound	10.79m	78%	28%	2.34m	40	800	1.869bn	1.91bn
	Inbound	5.74m	82%	24%	1.13m	2	40	0.045bn	
Belgium	Outbound	Figure based on tourism statistics and border region consumption analysis							1.04bn
	Inbound								
Luxembourg	Outbound	Figure based on tourism statistics and border region consumption analysis							0.77bn
	Inbound								
Algeria	Outbound	Figure based on tourism statistics and border region consumption analysis							0.43bn
	Inbound								
Others									2.55bn
Total									**6.71bn**

Germany		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Czech Republic	Outbound	Figure based on tourism statistics and border region consumption analysis							4.45bn
	Inbound								
Poland	Outbound	34.03m	84%	24%	6.94m	25	500	3.47bn	3.48bn
	Inbound	1.00m	82%	24%	0.20m	2	40	0.01bn	
Luxembourg	Outbound	All flows considered legal							0.34bn
	Inbound								
Austria	Outbound	All flows considered legal							0.21bn
	Inbound								
Others									2.52bn
Total									**11.00bn**

Greece		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Bulgaria	Outbound	All flows considered legal							0.066bn
	Inbound								
Albania	Outbound	0.43m	83%	40%	0.14m	10	200	0.029bn	0.029bn
	Inbound	0.00m	78%	0%	0.00m	2	40	0.000bn	
Italy	Outbound	All flows considered legal							0.011bn
	Inbound								
Romania	Outbound	All flows considered legal							0.009bn
	Inbound								
Others									0.125bn
Total									**0.240bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Hungary		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Ukraine	Outbound	1.53m	83%	28%	0.36m	2	40	0.014	0.044bn
	Inbound	3.12m	100%	24%	0.73m	2	40	0.029	
Austria	Outbound								0.018bn
	Inbound			All flows considered legal					
Romania	Outbound								0.016bn
	Inbound			All flows considered legal					
Germany	Outbound								0.013bn
	Inbound			All flows considered legal					
Others									0.132bn
Total									**0.223bn**

Ireland		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Spain	Outbound								0.125bn
	Inbound			All flows considered legal					
UK	Outbound								0.117bn
	Inbound			All flows considered legal					
Italy	Outbound								0.044bn
	Inbound			All flows considered legal					
France	Outbound								0.040bn
	Inbound			All flows considered legal					
Others									0.270bn
Total									**0.596bn**

Italy		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Slovenia	Outbound								0.121bn
	Inbound			All flows considered legal					
Germany	Outbound								0.036bn
	Inbound			All flows considered legal					
Bulgaria	Outbound								0.019bn
	Inbound			All flows considered legal					
Croatia	Outbound								0.018bn
	Inbound			All flows considered legal					
Others									0.393bn
Total									**0.586bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Latvia									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Lithuania	Outbound								0.009bn
	Inbound			All flows considered legal					
Russia	Outbound	0.25m	82%	27%	0.06m	2	40	0.002bn	0.009bn
	Inbound	0.59m	80%	35%	0.16m	2	40	0.007bn	
Estonia	Outbound								0.004bn
	Inbound			All flows considered legal					
Belarus	Outbound	0.10m	82%	27%	0.02m	2	40	0.001bn	0.002bn
	Inbound	0.13m	81%	25%	0.03m	2	40	0.001bn	
Others									0.009bn
Total									**0.033bn**

Lithuania									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Poland	Outbound								0.005bn
	Inbound			All flows considered legal					
Belarus	Outbound	0.36	82%	27%	0.08	2	40	0.0032	0.004bn
	Inbound	0.16	81%	25%	0.03	2	40	0.0013	
Latvia	Outbound								0.004bn
	Inbound			All flows considered legal					
Russia	Outbound	0.18	82%	27%	0.04	2	40	0.0016	0.003bn
	Inbound	0.12	80%	35%	0.03	2	40	0.0014	
Others									0.022bn
Total									**0.038bn**

Luxembourg									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
France	Outbound								0.011bn
	Inbound			All flows considered legal					
Belgium	Outbound								0.008bn
	Inbound			All flows considered legal					
Germany	Outbound								0.006bn
	Inbound			All flows considered legal					
Italy	Outbound								0.004bn
	Inbound			All flows considered legal					
Others									0.012bn
Total									**0.041bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Malta		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Italy	Outbound								0.008bn
	Inbound			All flows considered legal					
Spain	Outbound								0.004bn
	Inbound			All flows considered legal					
Germany	Outbound								0.004bn
	Inbound			All flows considered legal					
Greece	Outbound	0.01m	83%	20%	0.01m	40	800	0.001bn	0.001bn
	Inbound	0.01m	83%	40%	0.003m	2	40	0.0001bn	
Others									0.009bn
Total									**0.026bn**

Netherlands		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Germany	Outbound								0.260bn
	Inbound			All flows considered legal					
Italy	Outbound								0.168bn
	Inbound			All flows considered legal					
France	Outbound								0.151bn
	Inbound			All flows considered legal					
Belgium	Outbound								0.145bn
	Inbound			All flows considered legal					
Others									0.932bn
Total									**1.656bn**

Poland		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Ukraine	Outbound	1.23m	82%	24%	0.24m	2	40	0.010bn	0.104bn
	Inbound	9.99m	100%	24%	2.35m	2	40	0.094bn	
Germany	Outbound								0.046bn
	Inbound			All flows considered legal					
Andorra	Outbound								0.032bn
	Inbound			All flows considered legal					
Belarus	Outbound	0.32m	82%	24%	0.06m	2	40	0.003bn	0.029bn
	Inbound	3.27m	81%	25%	0.65m	2	40	0.026bn	
Others									0.235bn
Total									**0.445bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Portugal									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Spain	Outbound								0.078bn
	Inbound			All flows considered legal					
Belgium	Outbound								0.014bn
	Inbound			All flows considered legal					
Ireland	Outbound								0.008bn
	Inbound			All flows considered legal					
Czech Republic	Outbound	0.044m	83%	19%	0.01m	40	800	0.006bn	0.007bn
	Inbound	0.181m	82%	25%	0.04m	2	40	0.001bn	
Others									0.067bn
Total									**0.175bn**

Romania									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Ukraine	Outbound	0.89m	81%	24%	0.17m	10	200	0.034bn	0.044bn
	Inbound	1.05m	100%	24%	0.25m	2	40	0.010bn	
Serbia	Outbound	0.06m	81%	24%	0.01m	10	200	0.002bn	0.008bn
	Inbound	0.50m	83%	33%	0.13m	2	40	0.005bn	
Italy	Outbound								0.007bn
	Inbound			All flows considered legal					
Poland	Outbound								0.007bn
	Inbound			All flows considered legal					
Others									0.063bn
Total									**0.129bn**

Slovakia									
Country		**# of border crossings**	**Population 18+**	**Smoking prevalence**	**Smoker trips**	**Packs per trip**	**# of cigarettes**	**ND(L) volume**	**Total ND(L)**
Czech Republic	Outbound								0.066bn
	Inbound			All flows considered legal					
Ukraine	Outbound	0.41m	82%	31%	0.10m	10	200	0.021bn	0.029bn
	Inbound	0.85m	100%	24%	0.20m	2	40	0.008bn	
Hungary	Outbound								0.021bn
	Inbound			All flows considered legal					
Austria	Outbound								0.020bn
	Inbound			All flows considered legal					
Others									0.043bn
Total									**0.178bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

Slovenia		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Croatia	Outbound			All flows considered legal					0.036bn
	Inbound								
Serbia	Outbound	0.08m	82%	24%	0.02m	10	200	0.003bn	0.004bn
	Inbound	0.12m	83%	33%	0.03m	2	40	0.001bn	
Germany	Outbound			All flows considered legal					0.003bn
	Inbound								
Italy	Outbound			All flows considered legal					0.003bn
	Inbound								
Others									0.012bn
Total									**0.060bn**

Spain		# of border crossings	Population 18+	Smoking prevalence	smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Gibraltar	Outbound			Figure based on tourism statistics and border region consumption analysis					0.760bn
	Inbound								
Andorra	Outbound			All flows considered legal					0.461bn
	Inbound								
Canary Islands	Outbound			All flows considered legal					0.203bn
	Inbound								
Portugal	Outbound			All flows considered legal					0.045bn
	Inbound								
Others									0.394bn
Total									**1.865bn**

Sweden		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Germany	Outbound			All flows considered legal					0.025bn
	Inbound								
Italy	Outbound			All flows considered legal					0.023bn
	Inbound								
Poland	Outbound			All flows considered legal					0.023bn
	Inbound								
Finland	Outbound			All flows considered legal					0.019bn
	Inbound								
Others									0.308bn
Total									**0.398bn**

Methodology – Non-domestic legal analysis

Primary information sources and tools – Non-domestic legal major flow calculations

UK[a]		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Spain	Outbound			All flows considered legal					1.494bn
	Inbound								
Poland	Outbound	2.39m	79%	23%	0.43m	40	800	0.344bn	0.708bn
	Inbound	2.18m	82%	28%	0.49m	37	740	0.364bn	
Romania	Outbound	0.20m	79%	17%	0.03m	40	800	0.021bn	0.208bn
	Inbound	1.22m	81%	24%	0.23m	40	800	0.186bn	
Canary Islands	Outbound			All flows considered legal					0.177bn
	Inbound								
Others									1.668bn
Total									**4.255bn**

Norway		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Sweden	Outbound			All flows considered legal					0.312bn
	Inbound								
Germany	Outbound			All flows considered legal					0.017bn
	Inbound								
Spain	Outbound			All flows considered legal					0.012bn
	Inbound								
Poland	Outbound	0.53m	79%	11%	0.05m	10	200	0.009bn	0.010bn
	Inbound	0.13m	82%	24%	0.02m	2	40	0.001bn	
Others									0.462bn
Total									**0.814bn**

Switzerland		# of border crossings	Population 18+	Smoking prevalence	Smoker trips	Packs per trip	# of cigarettes	ND(L) volume	Total ND(L)
Country									
Germany	Outbound			All flows considered legal					0.205bn
	Inbound								
Italy	Outbound			All flows considered legal					0.145bn
	Inbound								
France	Outbound			All flows considered legal					0.066bn
	Inbound								
Austria	Outbound			All flows considered legal					0.053bn
	Inbound								
Others									0.643bn
Total									**1.111bn**

Note: (a) Smoking prevalence has been weighted to take account of the nationality and gender of the travellers between Poland and the UK

Methodology – Illicit Whites analysis

Methodology – Illicit Whites analysis

Illicit Whites brand flows continued to account for over a third of total C&C volumes in the EU

- 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:

  - Illicit volumes were compared to LDS on a country by country basis to determine a share of total consumption

  - KPMG conservatively assumed that where non-domestic volumes represented >99% of total consumption, the brand is an Illicit White where a large flow has no country specific labelling or tax stamp

  - Once identified, the brand's overall volume is determined only in countries where the brand flow meets the 99% criteria

- 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

- We also categorise illicit whites as those which have no legal country specific labelling, even if there is legal distribution within a country

Illicit Whites identification process, Project SUN – worked example

Project SUN - Non-domestic volumes by brand and destination country				
Brand	**Country 1**	**Country 2**	**Country 3**	**Country 4**
Brand A	0.01	0.24	0.01	0.01

Project SUN - LDS by brand and by country				
Brand	**Country 1**	**Country 2**	**Country 3**	**Country 4**
Brand A	-	0.00	-	0.01

Project sun - Non-domestic volumes as share of total consumption				
Brand	**Country 1**	**Country 2**	**Country 3**	**Country 4**
Brand A	100%	100%	100%	38%

Project SUN - Illicit White volumes by brand and by destination country				
Brand	**Country 1**	**Country 2**	**Country 3**	**Country 4**
Brand A	0.01	0.24	0.01	-

Classified as an Illicit White in country 2 where there is no evidence of legal distribution and all flows are unspecified origin

Not classified as an Illicit White in country 4 where non-domestic volumes are 38% of consumption

Methodology – EU Tax Loss Calculation

Methodology – EU Tax Loss Calculation

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

- The calculation shown below was performed for each country:
  - EU tax tables were used to determine the WAP(a) for cigarettes in January 2018
  - This is then multiplied by the tax rate (as a % of WAP)
  - The resultant tax take (per cigarette) is multiplied by the C&C consumption volumes for that country per the EU Flows Model to give the total potential tax loss based on WAP
- Total tax losses for the EU 28 countries based on WAP were estimated to be €10.0bn in 2017. This was a decrease versus prior year (2016: €10.2bn)
- 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

EU Flows Model [2]

C&C volume (bn cigarettes)

EU tax tables [1]

WAP (Euros/000 cigarettes) X **Tax rate (WAP %)** = **Total tax (Euros/000 cigarettes)**

X

Potential tax loss at WAP (million Euros)
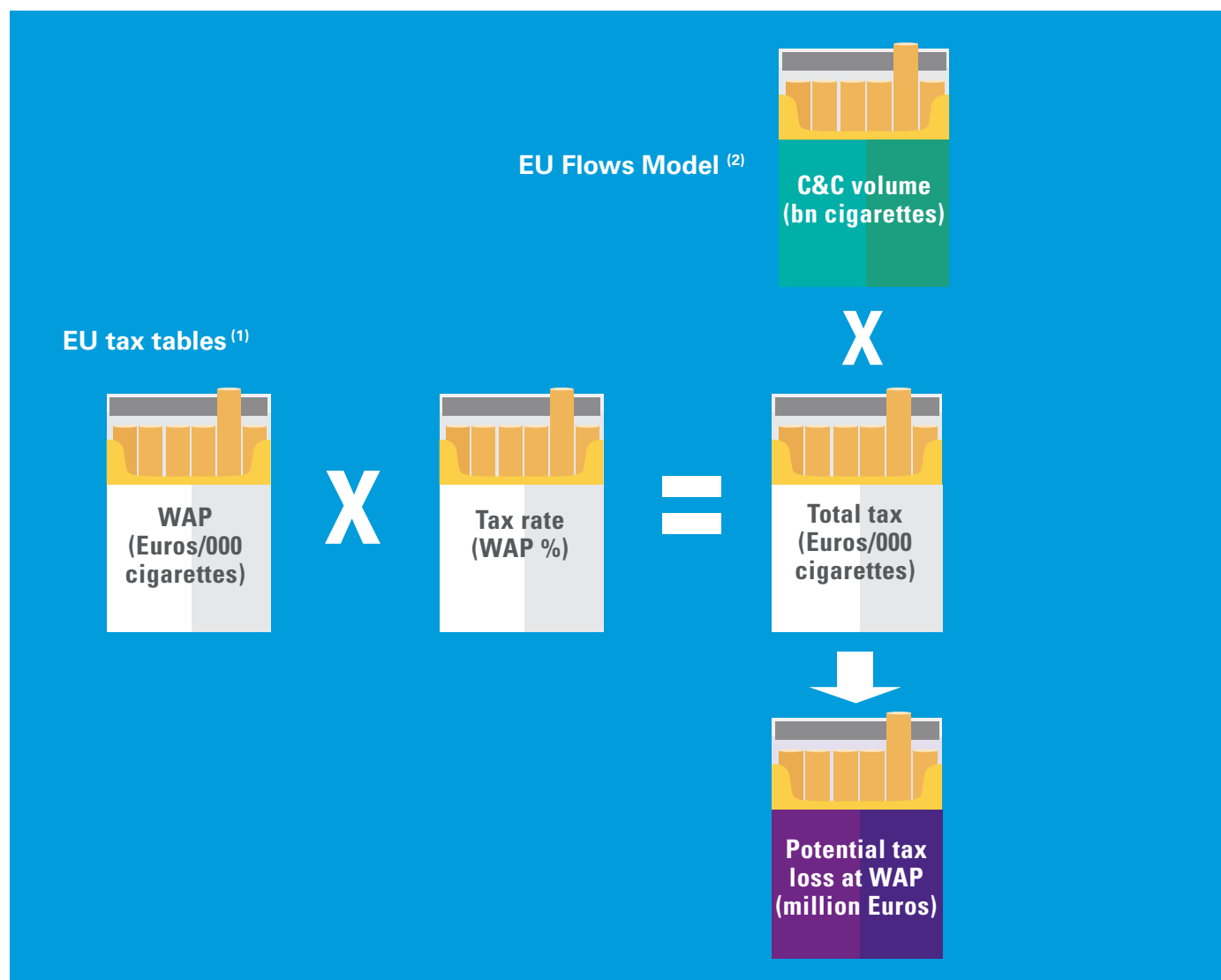
Note: (a) WAP denotes Weighted Average Price per pack of 20 cigarettes
Sources: (1) EC Excise Duty tables (Part III – Manufactured Tobacco) as at January 2018
            (2) KPMG EU Flows Model and analysis of data sources provided by manufacturers

Appendices - Limitation of Results

Appendices - Limitation of Results

Limitation	Detail	Impact	Adjustment
Geographic coverage	• We have limited our geographic coverage in some markets where the inclusion of additional territories would impact confidence levels in the ND(L) research • In some instances (e.g. Greek islands), LDS data is also insufficient for the purposes of this study	• Spanish results only cover mainland Spain and do not include the Canary Islands, Balearic Islands or Ceuta & Melilla • French results cover only mainland France and do not include Corsica. As a result, LDS from Corsica are not included in France consumption figures • Portuguese results only cover mainland Portugal and do not include Madeira or the Azores • Greek results only cover mainland Greece and do not include the Greek islands • UK results only cover Great Britain and Northern Ireland and do not include the Channel Islands or Isle of Man	Not adjusted for
Non-major manufacturer counterfeit	• EPS results do not identify counterfeit packs that have been made by manufacturers other than British American Tobacco plc, and Philip Morris International Management SA as only the manufacturer / trademark owner can confirm whether their brand pack is genuine [a]	• In some instances, the volume of legal domestic consumption may be overstated where domestic counterfeit variants exist, leading to corresponding understatements of C&C volumes for some brands (although the impact is likely to be minimal) • We cannot distinguish non-major manufacturer brand counterfeit (non-domestic variants) and contraband product, although this will not impact the overall volume of C&C • Illicit Whites volumes may include counterfeit	Not adjusted for
OTP	• EPSs collect cigarette packs only • Non-domestic consumption for OTP cannot be measured via EPS results	• Reports in a number of countries suggest that non-domestic consumption of OTP may have been growing in recent years. These observations are supported by Customs organisations in some countries	Not adjusted for
Non-EU outflows	• In order to calculate consumption, we have assumed no outflows of LDS outside the 30 countries of study	• Non-EU LDS outflows are not considered to be material due to the high prices relative to other parts of the world and Duty Free import restrictions. This is supported by market discussions and non-EU EPSs	Not adjusted for

Note: (a) Imperial Tobacco Limited counterfeit data is included for Germany in 2017

Appendices – Limitation of Results

Source	Limitation
EPS	• Whilst the EPS for every country is designed to be representative of the overall population, in some countries, owing to the geographical circumstances or demographics it is not possible to ensure that the sample is fully representative. This may be because: – The sample is more heavily weighted towards populous, urban areas and therefore may not be fully representative of consumption habits in rural regions – Homes and workplaces or public spaces are not covered • Results from Germany are based on a monthly analysis of approximately 10,000 packs collected at recycling centres. Therefore, they are not directly comparable with the EPS results from other countries due to the difference in the methodology. However, both methods produce similar results (see page 186 for details)[a] • Although EPS dates are selected to minimise seasonal factors, there may be specific events that impact the results such as significant price changes between countries and major national events which result in large numbers visiting the country, such as the Olympics or World Cup – In some instances the timing of EPSs has changed between years. In order to ensure comparability of results, monthly LDS figures, consumption trends and visitor data are all analysed and adjustments made where appropriate – Where there are specific outflows related to tourism limited to the summer months, the reported numbers may underrepresent the full picture as the EPS will only capture 1 point in time • Brand and market variant share can only be extrapolated with a degree of statistical accuracy for brands where a sufficiently large number of packs have been collected • EPS results are analysed to identify any outliers that may impact results, such as geographic concentrations of a specific brand or market variant. Brand specific data is also compared to known sales in the source market to identify whether results are credible – Where data suggests a sampling or data capture error may have occurred at a specific location, results are adjusted and the remainder of the survey is re-weighted accordingly • In some specific instances it is not possible to differentiate between Duty Free and Duty Paid variants from the empty packs collected – In some countries it is possible to purchase duty free labelled product but, when travelling within the EU, duty is in fact paid on the product. It is not possible to determine this distinction – The study also does not take account of various duty free loopholes that exist for some travel within the EU [b]

Note: (a) Over 500,000 packs were collected as part of the YBS in Germany; however once weighted, the survey is presented in 120,000 data lines
        (b): With the exception of Arland island off the coast of Finland

Appendices - Limitation of Results

Source	Limitation
LDS	• In some cases tax stamp data may not correspond to the calendar year and may also be distorted by inventory holdings in advance of increases in taxation. In these instances we have used the LDS source considered by local country management to be representative of smoker consumption during the calendar year, or official government data sources • Slight timing variances may arise between the date the product was shipped and actual consumption but, following discussions with local management, this is not considered significant and the full year LDS information we have is considered to be a fair and accurate representation in each market
ND(L)	• From 2014, we have used business and tourism travel data from sources such as the UN World Tourism Organization and national statistics offices to calculate the number of trips made • We have calculated the volume of cigarettes purchased by assuming that smokers purchase the Duty Free limit, or the indicative legal limit for intra-EU travel • This may over-weight ND(L) volume as a proportion of the total non-domestic flow • Comparison of ND(L) volumes as calculated by travel flows analysis with historic consumer research has ensured that some of these limitations have been corrected, such as the number of packs purchased per trip • In order to determine the ND(L) brand split, border sales data is used. Whilst this gives an accurate approximation of the likely brand split, some brands may be sold more specifically on the border than others, which could increase the share of that brand • Where border sales data is not available and the EPS cannot be used, the brands are categorised as "other"

Appendices – EPS results by country

Appendices - EPS results by country

EPS results for EU 28 countries, Norway and Switzerland

EU 28 countries, Norway and Switzerland		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Austria		13,000	13,002	13,000	14%	18%	17%
Belgium		5,600	5,600	5,600	13%	9%	9%
Bulgaria		13,000	13,000	14,050	13%	9%	8%
Croatia		3,000	3,000	3,000	5%	6%	3%
Cyprus		1,000	1,000	1,000	7%	9%	8%
Czech Republic		21,004	21,004	21,004	4%	4%	4%
Denmark		5,500	5,500	5,500	6%	5%	7%
Estonia		6,600	6,600	6,600	15%	16%	14%
Finland		5,794	5,800	12,000	18%	14%	20%
France		22,998	23,000	34,500	30%	27%	21%
Germany		120,000	270,275	189,210	18%	8%	17%
Greece		14,000	14,000	14,000	21%	19%	19%
Hungary		19,905	19,895	19,905	11%	7%	8%
Ireland		9,999	20,000	10,000	25%	30%	35%
Italy		39,982	40,000	40,000	8%	8%	4%
Latvia		9,800	9,800	9,800	28%	25%	23%
Lithuania		12,800	19,200	12,800	21%	19%	20%
Luxembourg		399	400	400	18%	7%	7%
Malta		1,000	1,000	1,000	12%	19%	18%
Netherlands		21,000	28,000	14,000	19%	18%	25%
Poland		51,000	51,000	51,000	18%	16%	14%
Portugal		3,000	3,000	3,000	4%	3%	4%
Romania		15,126	15,152	15,148	16%	17%	16%
Slovakia		12,800	6,400	6,400	4%	5%	7%
Slovenia		3,000	3,000	3,000	10%	13%	12%
Spain		29,983	30,000	30,000	10%	9%	10%
Sweden		10,031	10,000	10,000	13%	13%	13%
UK		25,400	50,800	50,800	28%	26%	29%
Norway		5,000	5,000	5,000	46%	43%	44%
Switzerland		6,600	6,600	6,600	14%	15%	12%
Total		**508,321**	**430,753**	**608,317**	**13.0%**	**16.3%**	**16.0%**

Appendices – EPS results by country

Austria and Belgium EPS results by region, 2015-17[1][2][3]

Austria		Number of packs collected			ND incidence in EPS		
Region		**2015**	**2016**	**2017**	**2015**	**2016**	**2017**
Burgenland		440	440	440	17%	26%	29%
Kärnten		850	850	850	21%	18%	23%
Niederösterreich		2,484	2,486	2484	15%	25%	16%
Oberösterreich		2,179	2,178	2,178	13%	15%	18%
Salzburg		816	816	816	12%	12%	13%
Steiermark		1,853	1,854	1,854	16%	15%	13%
Tirol		1,104	1,104	1,104	6%	7%	9%
Vorarlberg		574	574	574	9%	23%	34%
Wien		2,700	2,700	2,700	14%	20%	17%
Total		**13,000**	**13,002**	**13,000**	**14%**	**18%**	**17%**

Belgium		Number of packs collected			ND incidence in EPS		
Region		**2014**	**2015**	**2017**	**2014**	**2015**	**2017**
Aalst		200	200	200	10%	8%	14%
Anderlecht		240	240	240	10%	9%	12%
Antwerp		1,100	1,100	1,100	14%	8%	15%
Arlon		160	160	160	37%	7%	11%
Brugge		240	240	240	7%	8%	8%
Brussels		380	380	380	8%	6%	14%
Charleroi		460	460	460	12%	11%	10%
Genk		200	200	200	15%	9%	9%
Gent		500	500	500	11%	6%	6%
Hasselt		200	200	200	18%	10%	7%
Kortrijk		200	200	200	10%	6%	5%
Leuven		200	200	200	29%	17%	5%
Liege		440	440	440	14%	13%	6%
Mechelen		200	200	200	6%	8%	7%
Mons		200	200	200	10%	10%	6%
Namur		240	240	240	14%	7%	6%
Sambreville		160	160	160	15%	6%	7%
Schaerbeek		280	280	280	12%	5%	6%
Total		**5,600**	**5,600**	**5,600**	**13%**	**9%**	**9%**

Appendices – EPS results by country

Bulgaria results by region, 2015-17[1]

Bulgaria	Number of packs collected			ND incidence in EPS		
Region	2015	2016	2017	2015	2016	2017
Blagoevgrad	300	500	500	32%	13%	13%
Burgas	660	663	666	10%	5%	5%
Dobric	300	300	300	7%	8%	5%
Gabrovo	300	300	500	43%	2%	6%
Grad Sofia		3,744	3,528		6%	6%
Haskovo	252	1,035	1,162	18%	14%	16%
Jambol	244	272	300	5%	6%	12%
Kjustendil	300	400	500	26%	22%	18%
Lovec		344	536		4%	5%
Montana	300	400	300	21%	5%	5%
Pazardzik	236	268	500	29%	10%	14%
Pernik	264	282	300	12%	26%	9%
Plovdiv	1,114	1,264	1,414	24%	14%	7%
Ruse	492	492	742	8%	6%	4%
Sliven	302	301	300	20%	11%	10%
Sumen	266	283	300	3%	3%	3%
Varna	1,102	1,102	1,102	8%	6%	3%
Veliko Tarnovo	300	400	500	13%	4%	5%
Vidin	300	300	300	26%	8%	12%
Vratsa		150	300		3%	6%
Total	**13,000**	**13,000**	**14,050**	**13%**	**9%**	**8%**

Appendices – EPS results by country

Croatia, Cyprus and Czech Republic EPS results by region, 2015-17[1][2]

Croatia	Number of packs collected			ND incidence in EPS		
Region	2015	2016	2017	2015	2016	2017
Osijek	193	193	193	5%	13%	7%
Pula	132	132	132	2%	1%	1%
Rijeka	294	294	294	3%	3%	3%
Sesvete	126	126	126	4%	4%	3%
Slavonski Brod	124	124	124	25%	46%	2%
Split	383	383	383	4%	4%	3%
Zadar	163	163	163	2%	0%	3%
Zagreb	1,585	1,585	1,585	5%	3%	3%
Total	**3,000**	**3,000**	**3,000**	**5%**	**6%**	**3%**

Cyprus	Number of packs collected			ND incidence in EPS		
Region	2015	2016	2017	2015	2016	2017
Larnaca	150	150	150	4%	8%	13%
Limassol	300	300	300	4%	8%	5%
Nicosia	400	400	400	11%	10%	8%
Paphos	150	150	150	3%	13%	10%
Total	**1,000**	**1,000**	**1,000**	**7%**	**9%**	**8%**

Czech Republic	Number of packs collected			ND incidence in EPS		
Region	2015	2016	2017	2015	2016	2017
Jihocesky Kraj	724	724	724	2%	3%	6%
Jihomoravsky Kraj	2,148	2,148	2,148	4%	4%	4%
Karlovarsky Kraj	300	300	300	8%	4%	6%
Kralovehradecky Kraj	526	526	526	2%	4%	4%
Liberecky Kraj	1,034	1,034	1,034	4%	4%	4%
Moravsoslezsky Kraj	3,332	3,332	3,332	6%	4%	4%
Olomoucky Kraj	1,062	1,062	1,062	3%	5%	4%
Pardubicky Kraj	510	510	510	3%	4%	7%
Plzensky Kraj	948	948	948	3%	4%	5%
Praha	7,114	7,114	7,114	4%	4%	5%
Stredocesky Kraj	636	636	636	5%	3%	4%
Ustecky Kraj	1,750	1,750	1,750	9%	5%	5%
Vysocina	496	496	496	3%	5%	4%
Zlinsky Kraj	424	424	424	4%	3%	4%
Total	**21,004**	**21,004**	**21,004**	**4%**	**4%**	**4%**

Sources: (1) Nielsen Empty Pack Surveys, 2015-2017
            (2) Ultex Empty Pack Surveys, 2015-2017

Appendices – EPS results by country

Denmark and Estonia EPS results by region, 2015-17[1][2]

Denmark		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Capital Region		2,612	2,613	2,612	6%	4%	7%
Mid Jutland		1,211	1,211	1,211	5%	5%	5%
North Jutland		422	422	422	5%	4%	7%
South Denmark		1,105	1,105	1,105	6%	4%	8%
Zealand		150	150	150	2%	5%	3%
Total		**5,500**	**5,500**	**5,500**	**6%**	**5%**	**7%**

Estonia		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Har		3,200	3,200	3,200	11%	11%	10%
Ida		1,100	1,100	1,100	32%	33%	27%
Lääne		200	200	200	17%	17%	15%
Lvi			200	200		15%	19%
Pär		300	300	300	11%	20%	14%
Saa		200	200	200	11%	11%	11%
Tar		800	800	800	13%	11%	16%
Val		200	200	200	23%	22%	14%
Vil		200	200	200	12%	15%	14%
Võr		200	200	200	22%	22%	15%
Total		**6,600**	**6,600**	**6,600**	**15%**	**16%**	**14%**

Appendices – EPS results by country

Finland and France EPS results by region, 2015-17[1]

Finland		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Keski-Suomi		318	319	634	17%	13%	19%
Kymenlaakso		206	206	399	14%	14%	17%
Lappi		199	200	2,000	23%	12%	27%
Paijat-Hame		245	246	517	14%	15%	18%
Pirkanmaa		522	523	1,040	20%	13%	18%
Pohjois-Savo		252	252	519	14%	13%	22%
Prohiois-Pohianmaa		461	459	913	17%	13%	16%
Uusimaa		2,559	2,563	5,121	20%	15%	18%
Varsinais-Suomi		432	432	857	15%	12%	18%
Total		**5,794**	**5,800**	**12,000**	**18%**	**14%**	**20%**

France		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Alsace Lorraine Champagne Ardennes		2,200	2,200	3,300	31%	31%	23%
Aquitaine		1,400	1,400	2,100	26%	29%	26%
Auvergne Limousin		1,000	1,000	1,500	24%	25%	18%
Basse Haute Normandie		1,600	1,600	2,400	23%	20%	12%
Bourgogne Franche Comte		2,000	2,000	3,000	21%	25%	16%
Bretagne		2,000	2,000	3,000	15%	18%	14%
Centre		1,000	1,000	1,500	20%	20%	16%
Ile De France		2,998	3,000	4,500	33%	28%	21%
Languedoc Roussillon Midi Pyrenees		1,600	1,600	2,400	33%	33%	31%
Nord Picardie		2,000	2,000	3,000	31%	32%	24%
Pays De Loire Poitou Charentes		1,600	1,600	2,400	24%	20%	12%
Provence Alpes Cote D Azur		1,600	1,600	2,400	52%	29%	28%
Rhone Alpes		2,000	2,000	3,000	27%	30%	22%
Total		**22,998**	**23,000**	**34,500**	**30%**	**27%**	**21%**

Appendices – EPS results by country

Germany and Greece EPS results by region, 2015-17[1][2][a][b]

Germany		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Nielsen 1		19,349	53,128	33,210	10%	4%	9%
Nielsen 2		26,202	33,696	29,928	10%	6%	10%
Nielsen 3a		15,857	37,897	19,711	9%	5%	9%
Nielsen 3b		14,886	34,960	24,985	10%	3%	8%
Nielsen 4		17,942	41,375	29,688	24%	10%	20%
Nielsen 5		5,957	11,897	12,000	39%	20%	44%
Nielsen 6		10,964	21,138	11,488	32%	16%	30%
Nielsen 7		8,843	36,184	28,200	42%	12%	44%
Total		**120,000**	**270,275**	**189,210**	**18%**	**8%**	**17%**

Greece		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Attica		4,600	4,600	4,600	25%	22%	21%
Central Greece		400	400	400	17%	20%	20%
Central Macedonia		3,000	3,000	3,000	23%	23%	23%
Crete		1,000	1,000	1,000	13%	14%	12%
East Macedonia/Thrace		800	800	800	15%	15%	17%
Epirus		600	600	600	21%	19%	21%
Ionian Islands		400	400	400	19%	17%	14%
South Aegean		400	400	400	12%	16%	13%
Thessaly		1,200	1,200	1,200	16%	16%	17%
West Greece		1,200	1,200	1,200	17%	17%	18%
West Macedonia		400	400	400	21%	13%	17%
Total		**14,000**	**14,000**	**14,000**	**21%**	**19%**	**19%**

Sources: (1) Ipsos Yellow Bag Surveys, 2015-2017
            (2) Nielsen Empty Pack Surveys, 2015-2017

Appendices – EPS results by country

Hungary and Ireland EPS results by region, 2015-17[1][2]

| Hungary | | Number of packs collected | | | ND incidence in EPS | | |
Region		2015	2016	2017	2015	2016	2017
Bács-Kiskun		980	979	980	15%	8%	8%
Baranya		645	645	645	7%	7%	7%
Békés		760	758	760	7%	6%	9%
Borsod-Abaúj-Zemplén		1,465	1,465	1,465	13%	11%	11%
Budapest		6,250	6,250	6,250	9%	6%	8%
Csongrád		1,310	1,310	1,310	13%	6%	10%
Fejér		640	640	640	6%	5%	6%
Gyor-Moson-Sopron		934	934	934	3%	6%	7%
Hajdú-Bihar		1,195	1,194	1,195	11%	9%	9%
Heves		390	390	390	8%	6%	9%
Jász-Nagykun-Szolnok		520	518	520	9%	10%	10%
Komárom-Esztergom		440	440	440	6%	7%	7%
Nógrád		165	165	165	2%	6%	9%
Pest		1,235	1,233	1,235	11%	7%	7%
Somogy		490	490	490	4%	4%	6%
Szabolcs-Szatmár-Bereg		1,099	1,097	1,099	50%	12%	11%
Tolna		145	145	145	2%	4%	8%
Vas		335	335	335	1%	5%	6%
Veszprém		417	417	417	1%	3%	7%
Zala		490	490	490	5%	2%	7%
Total		**19,905**	**19,895**	**19,905**	**11%**	**7%**	**8%**

| Ireland | | Number of packs collected | | | ND incidence in EPS | | |
Region		2015	2016	2017	2015	2016	2017
Connacht		800	1,600	800	23%	29%	36%
Leinster		6,449	12,900	6,450	26%	31%	35%
Munster		2,550	5,100	2,550	24%	30%	35%
Ulster		200	400	200	25%	28%	26%
Total		**9,999**	**20,000**	**10,000**	**25%**	**30%**	**35%**

Sources: (1) GFK Hungary Empty Pack Surveys, 2015-2017
(2) MS Intelligence Empty Pack Surveys, 2015-2017

Appendices – EPS results by country

Italy and Latvia EPS results by region, 2015-17[1][2]

Italy		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Abruzzo		400	400	400	2%	0%	2%
Calabria		552	552	556	5%	7%	5%
Campania		3,648	3,648	3648	37%	33%	21%
Emilia Romagna		4,413	4,416	4416	2%	2%	1%
Friuli Venezia Giulia		608	608	608	26%	21%	14%
Lazio		7,889	7,892	7892	7%	3%	1%
Liguria		1,794	1,796	1796	2%	4%	2%
Lombardia		5,283	5,284	5284	6%	6%	4%
Marche		400	400	400	2%	2%	1%
Piemonte		3,080	3,080	3080	4%	5%	1%
Puglia		1,968	1,968	1968	3%	7%	1%
Sicilia		3,915	3,920	3920	9%	14%	9%
Toscana		2,126	2,128	2128	5%	1%	1%
Trentino Alto Adige		400	400	400	0%	1%	3%
Umbria		896	896	896	2%	2%	1%
Veneto		2,610	2,612	2612	3%	4%	1%
Total		**39,982**	**40,000**	**40,000**	**9%**	**8%**	**4%**

Latvia		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Kurzeme		1,200	1,200	1,200	20%	22%	25%
Latgale		1,400	1,400	1,400	46%	36%	40%
Pieriga		1,400	1,400	1,400	27%	28%	21%
Riga		4,000	4,000	4,000	27%	24%	19%
Vidzeme		800	800	800	19%	18%	21%
Zemgale		1,000	1,000	1,000	22%	19%	29%
Total		**9,800**	**9,800**	**9,800**	**28%**	**25%**	**23%**

Sources: (1) MS Intelligence Empty Pack Surveys, 2015-2017
(2) Nielsen Empty Pack Surveys, 2015-2017

Appendices – EPS results by country

Lithuania, Luxembourg and Malta EPS results by region, 2015-17[1][2]

Lithuania		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Alytus		800	1,200	800	23%	24%	24%
Kaunas		3,000	4,500	3000	21%	17%	19%
Klaipeda		1,600	2,400	1,600	16%	12%	13%
Marijampole		600	900	600	22%	21%	24%
Panevezys		800	1,200	800	23%	25%	23%
Siauliai		800	1,200	800	31%	30%	28%
Taurage		200	300	200	19%	19%	13%
Telsiai		800	1,200	800	15%	16%	15%
Utena		600	900	600	14%	16%	20%
Vilnius		3,600	5,400	3600	21%	18%	20%
Total		**12,800**	**19,200**	**12,800**	**21%**	**19%**	**20%**

Luxembourg		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Esch-Sur-Alzette		160	160	160	14%	8%	7%
Luxembourg		239	240	240	21%	7%	7%
Total		**399**	**400**	**400**	**18%**	**7%**	**7%**

Malta		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Northern		350	350	350	11%	21%	19%
Northern Harbour		550	550	550	14%	18%	18%
Southern Harbour		100	100	100	8%	19%	15%
Total		**1,000**	**1,000**	**1,000**	**12%**	**19%**	**18%**

Appendices – EPS results by country

Netherlands and Poland EPS results by region, 2015-17[1][2]

Netherlands		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Drenthe		303	404	202	15%	19%	19%
Flevoland		756	1,008	504	20%	15%	25%
Friesland		498	664	332	15%	18%	16%
Gelderland		1,626	2,168	1,084	19%	15%	22%
Groningen		546	728	364	16%	15%	19%
Limburg		1,128	1,504	752	21%	23%	21%
North Brabant		2,790	3,720	1,860	23%	22%	21%
North Holland		4,635	6,180	3,090	19%	18%	29%
Overijssel		1,488	1,984	992	19%	19%	22%
South Holland		5,916	7,888	3,944	17%	17%	27%
Utrecht		1,314	1,752	876	17%	18%	31%
Total		**21,000**	**28,000**	**14,000**	**19%**	**18%**	**25%**

Poland		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Dolnoslaskie		3,900	3,900	3,900	6%	6%	9%
Kujawsko-Pomorskie		2,775	2,775	2,775	13%	9%	9%
Lodzkie		3,375	3,375	3,375	20%	20%	20%
Lubelskie		2,550	2,550	2,550	32%	37%	29%
Lubuskie		1,350	1,350	1,350	7%	8%	10%
Malopolskie		2,925	2,925	2,925	16%	11%	9%
Mazowieckie		8,100	8,100	8,100	29%	24%	22%
Opolskie		1,800	1,800	1,800	6%	7%	6%
Podkarpackie		2,850	2,850	2,850	32%	29%	16%
Podlaskie		1,425	1,425	1,425	39%	35%	33%
Pomorskie		2,325	2,325	2,325	0%	2%	2%
Slaskie		7,350	7,350	7,350	16%	13%	12%
Swietokrzyskie		1,575	1,575	1,575	8%	12%	10%
Warminsko-Mazurskie		2,400	2,400	2,400	58%	47%	30%
Wielkopolskie		4,050	4,050	4,050	4%	0%	0%
Zachodniopomorskie		2,250	2,250	2,250	5%	8%	6%
Total		**51,000**	**51,000**	**51,000**	**18%**	**16%**	**14%**

Sources: (1) MS Intelligence Empty Pack Surveys, 2015-2017
(2) Almares Research Empty Pack Surveys, 2015-2017

Appendices – EPS results by country

Portugal, Romania and Slovakia EPS results by region, 2015-17[1][2][3]

Portugal		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Center		200	200	200	2%	1%	0%
Lisboa		900	900	1,900	4%	6%	4%
North		1,900	1,900	900	3%	3%	5%
Total		**3,000**	**3,000**	**3,000**	**4%**	**3%**	**4%**

Romania		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Bucharest		1,600	1,742	1,570	10%	7%	7%
Center		1,531	1,583	1,592	2%	2%	2%
North-East		2,637	2,399	2,824	37%	42%	39%
North-West		1,891	2,048	1,937	20%	21%	16%
South		2,084	2,005	1,897	3%	2%	4%
South-East		2,062	1,948	1,959	11%	13%	11%
South-West		1,676	1,798	1,784	24%	24%	24%
West		1,645	1,629	1,585	23%	24%	24%
Total		**15,126**	**15,152**	**15,148**	**16%**	**17%**	**16%**

Slovakia		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Banskobystricky Kraj		1,100	550	550	3%	2%	7%
Bratislavsky Kraj		2,400	1,200	1,200	2%	3%	3%
Kosicky Kraj		2,600	1,300	1,300	6%	8%	10%
Nitriansky Kraj		1,700	850	850	3%	4%	9%
Presovsky Kraj		2,200	1,100	1,100	4%	7%	11%
Trenciansky Kraj		800	400	400	4%	2%	4%
Trnavsky Kraj		800	400	400	2%	3%	3%
Zilinsky Kraj		1,200	600	600	3%	5%	5%
Total		**12,800**	**6,400**	**6,400**	**4%**	**5%**	**7%**

Source: (1) Ipsos Empty Pack Surveys, 2015-2017
           (2) Novel Study, 2015-2017
           (3) Nielsen Empty Pack Surveys, 2015-2017

Appendices – EPS results by country

Slovenia and Spain EPS results by region, 2015-17[1][2]

Slovenia		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Celje		210	210	210	9%	12%	10%
Koper		139	139	139	6%	11%	9%
Kranj		208	208	208	4%	13%	7%
Ljubljana		1,539	1,539	1,539	12%	13%	13%
Maribor		531	531	531	7%	15%	13%
Novo Mesto		130	130	130	3%	11%	21%
Ptuj		101	101	101	6%	12%	11%
Velenje		142	142	142	18%	17%	8%
Total		**3,000**	**3,000**	**3,000**	**10%**	**13%**	**12%**

Spain		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Andalucia		5,172	5,176	5,176	33%	28%	33%
Aragon		1,169	1,170	1,170	2%	2%	3%
Asturias		858	858	858	3%	2%	2%
Basque Country		1,533	1,534	1,534	6%	5%	7%
Cantabria		303	304	304	6%	2%	4%
Castilla Y Leon		1,318	1,320	1,320	4%	2%	4%
Castilla-La Mancha		295	296	296	7%	1%	4%
Catalonia		5,394	5,394	5,394	6%	7%	5%
Comunidad Valenciana		2,840	2,842	2,842	5%	4%	4%
Extremadura		257	258	258	19%	6%	2%
Galicia		1,130	1,130	1,130	5%	4%	3%
La Rioja		262	262	262	3%	2%	1%
Madrid		7,988	7,992	7,992	6%	5%	6%
Murcia		1,126	1,126	1,126	7%	4%	6%
Navarra		338	338	338	4%	4%	3%
Total		**29,983**	**30,000**	**30,000**	**10%**	**9%**	**10%**

Appendices - EPS results by country

Sweden EPS results by region, 2015-17[1]

Sweden		Number of packs collected			ND incidence in EPS		
Region		**2015**	**2016**	**2017**	**2015**	**2016**	**2017**
Blekinge		90	150	150	14%	16%	20%
Dalarna		112	150	150	22%	11%	18%
Gastrikland		190	190	190	15%	14%	12%
Halland		226	304	304	11%	12%	11%
Jönköping		233	233	233	13%	14%	13%
Kronoberg		154	154	154	12%	15%	15%
Norrbotten		136	150	150	19%	15%	10%
Örebro		272	272	272	11%	12%	15%
Östergötland		500	500	500	8%	12%	12%
Skåne		1,177	1,101	1,101	13%	13%	12%
Smaland		97	150	150	20%	13%	11%
Södermanland		225	316	316	12%	14%	16%
Stockholm		3,628	3,284	3,284	13%	13%	14%
Uppsala		355	355	355	13%	14%	10%
Värmland		163	162	162	9%	8%	18%
Västerbotten		299	359	359	16%	10%	12%
Västernorrland		146	150	150	23%	12%	14%
Västmanland		296	296	296	13%	10%	14%
Västra Götaland		1,732	1,724	1,724	13%	12%	11%
Total		**19,909**	**10,031**	**10,000**	**11%**	**13%**	**13%**

Source: (1) MS Intelligence Empty Pack Surveys, 2015-2017

Appendices – EPS results by country

UK and Norway EPS results by region, 2015-17[1]

UK 🇬🇧	Number of packs collected			ND incidence in EPS		
Region	2015	2016	2017	2015	2016	2017
East Midlands	2,000	4,000	4,000	29%	26%	28%
East of England	2,200	4,400	4,400	27%	28%	29%
London	3,000	6,000	6,000	28%	27%	28%
North East England	1,000	2,000	2,000	26%	27%	29%
North West England	2,598	5,196	5,196	28%	28%	29%
Northern Ireland	1,000	2,000	2,000	31%	27%	29%
Scotland	2,198	4,396	4,396	15%	15%	24%
South East England	4,002	8,004	8,004	29%	27%	34%
South West England	1,800	3,600	3,600	28%	26%	32%
Wales	1,400	2,800	2,800	31%	28%	27%
West Midlands	2,402	4,804	4,804	32%	26%	28%
Yorkshire and The Humber	1,800	3,600	3,600	30%	27%	28%
Total	**25,400**	**50,800**	**50,800**	**28%**	**26%**	**29%**

Norway 🇳🇴	Number of packs collected			ND incidence in EPS		
Region	2015	2016	2017	2015	2016	2017
Akershus	376	376	376	48%	42%	43%
Hordaland	866	866	866	44%	43%	43%
Oslo	2,012	2,012	2,012	46%	45%	43%
Ostfold	248	248	248	46%	44%	48%
Rogaland	419	419	419	48%	42%	43%
Sor-Trondelag	579	579	579	45%	43%	43%
Vest-Adger	273	273	227	41%	39%	46%
Troms	227	227	273	55%	42%	49%
Total	**5,000**	**5,000**	**5,000**	**46%**	**43%**	**44%**

Source: (1) MS Intelligence Empty Pack Surveys, 2015-2017

Appendices - EPS results by country

Switzerland EPS results by region, 2015-17[1]

Switzerland		Number of packs collected			ND incidence in EPS		
Region		2015	2016	2017	2015	2016	2017
Aargau		200	200	200	24%	14%	13%
Basel		400	400	400	15%	15%	12%
Bern		900	900	900	11%	12%	12%
Fribourg		200	200	200	10%	14%	7%
Geneva		700	700	700	18%	31%	12%
Grisons		200	200	200	28%	13%	13%
Jura		200	200	200	15%	10%	9%
Luzern		200	200	200	8%	14%	9%
Neuchatel		400	400	400	14%	11%	7%
Schaffhausen		200	200	200	11%	12%	9%
St. Gallen		400	400	400	16%	15%	12%
Thurgau		200	200	200	16%	12%	7%
Ticino		400	400	400	31%	10%	31%
Valais		200	200	200	7%	8%	7%
Vaud		300	300	300	9%	16%	6%
Zurich		1,500	1500	1500	8%	12%	14%
Total		**6,600**	**6,600**	**6,600**	**14%**	**15%**	**12%**

Appendices - Sources

Appendices - Sources
Macro-economic factors

The sources listed below are those used only in this year's analysis of the Project SUN 2017 Results report. Sources for analysis and findings for previous years can be found in previous year reports.

GDP growth (annual %) [1]		
Country	**2016**	**2017**
Austria	1.5	3.0
Belgium	1.4	1.7
Bulgaria	3.9	3.6
Croatia	3.2	2.8
Cyprus	3.4	3.9
Czech Republic	2.6	4.3
Denmark	2.0	2.2
Estonia	2.1	4.9
Finland	2.1	2.6
France	1.2	1.8
Germany	1.9	2.2
Greece	-0.2	1.4
Hungary	2.2	4.0
Ireland	5.1	7.8
Italy	0.9	1.5
Latvia	2.2	4.5
Lithuania	2.3	3.8
Luxembourg	3.1	2.3
Malta	5.2	6.4
Netherlands	2.2	3.2
Norway	1.1	1.9
Poland	2.9	4.6
Portugal	1.6	2.7
Romania	4.8	6.9
Slovakia	3.3	3.4
Slovenia	3.1	5.0
Spain	3.3	3.1
Sweden	3.2	2.3
Switzerland	1.4	1.1
United Kingdom	1.9	1.8

Unemployment rate (%) [2]		
Country	**2016**	**2017**
Austria	6.0	5.5
Belgium	7.9	7.1
Bulgaria	7.6	6.2
Croatia	13.4	11.1
Cyprus	12.9	11.0
Czech Republic	4.0	2.9
Denmark	6.2	5.7
Estonia	6.8	5.8
Finland	8.8	8.6
France	10.1	9.4
Germany	4.1	3.8
Greece	23.6	21.5
Hungary	5.1	4.2
Ireland	8.4	6.7
Italy	11.7	11.2
Latvia	9.6	8.7
Lithuania	7.9	7.1
Luxembourg	6.3	5.5
Malta	4.7	4.0
Netherlands	6.0	4.9
Norway	4.8	4.2
Poland	6.2	4.9
Portugal	11.2	9.0
Romania	5.9	4.9
Slovakia	9.7	8.1
Slovenia	8.0	6.6
Spain	19.7	17.2
Sweden	6.9	6.7
Switzerland	4.9	4.8
United Kingdom	4.9	4.4

Sources: (1) World Bank, 2017
            (2) Euromonitor, 2017

Appendices - Sources
Data sources

The sources listed below are those used only in this year's analysis of the Project SUN 2017 Results report. Sources for analysis and findings for previous years can be found in previous year reports.

Sources
Bulgarian Customs, 2017
Customs impose much harsher penalties on contraband cigarettes, Malta Today, November 2017
Czech Statistical Office, 2017
Euromonitor, 2017
EC Excise Duty Tables, January 2017 (Part III - Manufactured Tobacco)
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Federal Ministry of Finance, February 2018
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GDP Statistics, World Bank, 2017
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Hungary builds new high-tech border fence - with few migrants in sight, Reuters, March 2017
International Monetary Fund, 2017
KPMG analysis of manufacturers operating in Free Trade Zones
KPMG analysis of UNWTO Factbook
KPMG analysis of WHO National taxes and retail price
KPMG EU Flows Model 2013-2017 and analysis of data sources provided by manufacturers
Legifrance, January 2018
Ministry of Social Affairs and Health, Finland Press Release, 2017
Poland smashes international tobacco smuggling gang', Radio Poland, February 2017
Police smash illegal tobacco racket, Ekathimerini, July 2017
SENT system introduced in Poland, Mainfreight, May 2017
Smoking and tobacco consumption in Norway, Norwegian Institute of Public Health, 2017
Romanian seizures information, Stop Contrabanda, 2017
Table EMP06: Employment levels by nationality: People aged 16 and over (not seasonally adjusted), UK National Statistics Office, 2017
Tobacco Commissioner Decree, 2017
Tobacco in Bosnia and Herzegovina, Euromonitor, July 2017
Tobacco in Finland, Euromonitor, July 2017
UK and non-UK people working in the labour market, ONS, May 2018

Appendices - Scope of work

Appendices - Scope of work

The scope of work below forms the basis of our contract with the Beneficiaries

Methodology and Reporting

1. This study will report on the estimated size and composition of the total cigarette market (including counterfeit and contraband products), as detailed below, for each of the 28 EU Member States, Norway and Switzerland.

2. The findings from the work on the 30 countries will be used to produce a report which includes an executive summary covering an overall view of the total market for the 28 EU Member States (with Norway and Switzerland to be included in any individual country figures quoted), and an analysis of sources of illicit manufactured cigarettes, including reference to specific source countries and free trade zones where appropriate. We will also provide a section in the report on counterfeit and contraband flows for each of the 30 countries.

3. KPMG will publish an interactive version of the SUN report where the landing page will consist of a Map of Europe, through which the executive summary of the report is accessible. It should then allow individual country reports to be accessed by a simple click on the respective countries through the map of Europe.

4. Each country report will consist of the equivalent of four pages if printed, but will be hosted interactively including a table detailing total manufactured cigarette consumption from 2013 to 2017, along with charts showing the Non-Domestic Legal (ND(L)) and C&C by source country and by brand. The commentary will be factual and will source publicly available data on tobacco prices, traveller data, smoking prevalence and total tobacco consumption (including OTP) where relevant. The commentary will also source qualitative research and analysis undertaken by RUSI.

5. Our analysis of the cigarette market will be based on a methodology that incorporates primary research, market analysis and existing industry surveys.

   - For each of the 30 countries, we will use in market sales data provided by Philip Morris International Management SA (PMI) to estimate legal domestic sales and estimate Legal Domestic Consumption by subtracting outflows to other countries based on the results of Empty Pack Surveys provided by PMI.

   - Non domestic inflows for each country will be based on the results of Empty Pack Surveys and added to Legal Domestic Consumption to estimate Total Consumption.

   - Analysis of tourism flows and border sales data provided by PMI will be used to estimate the proportion of non-domestic inflows that are counterfeit and contraband for each of the 30 countries

   - The bespoke Project SUN methodology will be used to analyse the inflows and outflows between all of the 30 countries, based on the data sources above.

   - Additional data sources (as per point 11 below) will be used to refine our analysis.

   - We will include a methodology section in our report detailing the research process, highlighting its key strengths and providing comparisons with other approaches to estimating illicit tobacco consumption, including seizures data and consumer surveys.

6. KPMG will also conduct analysis on illicit whites which will be analysed in the same way as point 5 above. This will be reported in the executive summary of the report.

7. Upon finalisation of our work, KPMG will provide separately to RUSI data tables containing the following information:

   - Summary of EU total counterfeit and contraband inflows by source and destination market; and

   - Detailed analysis of total non-domestic outflows to the EU split by destination market and brand; and

   - Collation of both source and brand matrix to enable analysis of source and market in the same tables

8. KPMG will present initial findings to RUSI in the form of country specific reports. We understand that RUSI will disclose the initial findings reports to PMI and BAT (together defined for the purposes of this letter as the "Industry Participants") for the purposes of factual accuracy discussions. The KPMG Project SUN team, as well as RUSI participants, will also be made available to support two external stakeholder presentations following the completion of the report under the terms of this agreement.

Process

9. KPMG will manage the overall day-to-day process and will arrange factual accuracy discussions with the Industry Participants will consider the results of the analysis and such discussions will also be attended by RUSI. RUSI will be responsible for procuring the involvement of the Industry Participants in the factual accuracy discussions arranged by KPMG in accordance with the timetable as agreed between KPMG and RUSI. KPMG will provide agenda and meeting minutes for all factual accuracy meetings planned, as well as take responsibility for leading the meetings and collating feedback from the Industry Participants and RUSI, ensuring that the subject matter discussed will be confined to the project only. KPMG will request additional data where necessary. A dashboard which tracks data provided and highlights potential delays will be provided by KPMG to RUSI. RUSI will be responsible for ensuring that the Industry Participants provide such data.

KPMG will undertake factual accuracy discussions where required with each of the Industry Participants and with RUSI for 5 priority countries to help build understanding of: data sources and their limitations; first draft results and their possible implications for the country's anti-illicit trade activity. The 5 priority markets will be France, UK, Germany, Poland and Romania. In addition, KPMG will have factual accuracy

Appendices – Scope of work

discussions with each of the Industry Participant Duty Free teams. RUSI may also attend such discussions.

In order to hold these factual accuracy discussions, KPMG will share country specific preliminary results with RUSI and the management teams of the Industry Participants for each of the priority EU Member States as outlined above. The discussions provide opportunity for feedback and comment from each of those management teams and RUSI. These discussions can be arranged in advance by KPMG and RUSI will be responsible for ensuring that the Industry Participant country management teams comment verbally on the draft reports. In the event that a participant does not provide sufficient comments within the timeframe, the report publication date will be delayed.

For the remaining 25 non-priority countries, KPMG will share preliminary findings of the analysis with the management teams of the Industry Participants and RUSI for each non-priority country via a central point of contact for each the Industry Participants in a process agreed between RUSI and the Industry Participants. We understand that comments on the factual accuracy of these reports from non-priority countries will be collected centrally by a point of contact for each of Industry Participant and communicated to KPMG and RUSI. KPMG will hold discussions with the management teams of non-priority countries on an exceptions basis and RUSI will attend such discussions.

It should be noted that KPMG will only agree to make changes and undertake additional analysis which may be requested by the Industry Participants where such changes and additional analysis have first been agreed by the Industry Participants with RUSI. KPMG will be responsible for managing the transparency and alignment of the revision process. RUSI will be provided with the "pre-final" report and will be responsible for ensuring that feedback from Industry Participants is provided within 10 working days (including legal reviews). It should be noted that KPMG and RUSI will jointly determine which comments and amendments to make to the report.

10. In addition to the detailed report and management update meetings, KPMG will also undertake to manage and lead key intervention sessions between RUSI, the Industry Participants and the KPMG team, as set out below. RUSI will be responsible for procuring the involvement of the Industry Participants in such meetings in accordance with the timetable agreed between RUSI and KPMG:

   - Project Kick Off (to take place week commencing 7 May 2018) to agree detailed project process and approach, reporting format and highlight potential communication considerations;

   - A review of updated EU and country level findings for each of the 30 countries to address key challenges and actions, along with agreeing on the digital report format, to take place in mid-June 2018;

   - A review to agree on final changes to the report to take place in the first week of July 2018.

Data Sources

11. Information from several independent sources will be used. These sources are set out below.

- Tobacco industry research and statistics:

   - In Market Sales data provided by the Industry Participants and/or Tobacco Manufacturers' Associations. Where Industry Participants have separate sales data which improves the accuracy of the total industry sales data this will be provided during the factual accuracy process. The Project SUN report will only provide aggregated sales data that cannot be attributed to any Industry Participant;

   - Consumer survey data will be provided by Industry Participants where available to help demonstrate trends discussed during the factual accuracy discussions from Project SUN results and identify further areas of analysis (e.g. extent of smokers switching to roll-your-own products).

- Estimates of non-domestic consumption used by the Industry Participants in each market (where available) will be shared during the factual accuracy discussions. These estimates provide evidence-based support for observed trends in each of the EU Member States, Switzerland and Norway and will remain confidential. These will comprise:

   - Detailed survey results; and

- Information regarding the methodology and sampling plan. Existing public studies and statistics;

- Existing public studies and statistics;

   - Research and data published by government agencies (including Ministries of Finance), health bodies, customs authorities, market researchers and academics will be provided by Industry Participants teams to help corroborate findings.

Data from external sources will be obtained on a best efforts basis by KPMG. We will require access to identified Industry Participant personnel throughout this engagement which will be enabled by RUSI and our ability to deliver this scope depends on this access being made available.

If you would like further information, please talk to your usual KPMG contact or contact:

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