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## Industry and Market Response



## **Work Package 5**

### **Deliverable 5.2: Illicit tobacco trade in Europe: issues and solutions**

(With a special focus on the tracking and tracing systems)

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## **Executive summary**

### **Definitions**

- 1) Tax avoidance refers to legal activities to pay less or no taxes. Tax evasion refers to illegal activities to pay less or no taxes. Smuggling refers to products illegally traded across borders. Illicit trade refers to “any practice or conduct prohibited by law and which relates to production, shipment, receipt, possession, distribution, sale or purchase including any practice or conduct intended to facilitate such activity”. Illicit trade includes both smuggled and illicitly manufactured tobacco products.

### **The nature of tobacco smuggling over time**

- 2) In the nineties and the beginning of this millennium, the main type of illicit trade was large-scale cigarette smuggling: containers of cigarettes were exported, legally and duty unpaid, to countries where these products had no market, and where the cigarettes disappeared into the contraband market. The transnational tobacco companies were intimately involved.
- 3) While in Europe the large-scale smuggling of well-known brands subsequently decreased, other types of illicit trade increased, such as illicit manufacturing, including counterfeiting and the development of new cigarette brands, produced in a rather open manner at well known locations, which are only or mainly intended for the illegal market of another country.

### **Measuring tobacco smuggling**

- 4) Measuring illicit cigarette trade is methodologically challenging for varying reasons. Firstly, it is an illegal activity and illegal traders are unlikely to record their activities as legal traders do. Also, for security reasons data on illicit trade are usually difficult to obtain, as law enforcement agencies often prefer not to publicise the scope of their activity. Furthermore, all methods to estimate illicit trade have their limitations and not all studies clearly describe their methodology or these limitations.
- 5) The three most commonly used methods to measure illicit trade are: a) comparison of tax paid sales and individually reported consumption measures; b) survey of tobacco users’ purchase behaviours; c) observational data collection (eg the collection of discarded cigarette packs).
- 6) Estimates of the illicit cigarette trade from 84 countries around the world, using the latest available estimates from 2007 show that 11.6% of cigarette consumption in these countries is illicit (16.8% in low income countries, 11.8% in middle income countries, 12.7% in low and middle income countries combined, and 9.8% in high income countries), and that the total annual illicit consumption in these 84 countries is about 657 billion cigarettes a year (58 billion cigarettes of which consumed in the EU).
- 7) Transparent and public data on illicit tobacco trade are missing in most European countries. Research on illicit trade has been conducted by KPMG, a major

accountancy and professional services firm, as a part of the agreements between the EU and PMI. According to KPMG, total cigarette consumption in the EU was 685 billion units and contraband trade accounted for 8.9% of total consumption in 2009. The content of the KPMG report was only made public in August 2011 following a formal request based on EU legislation regarding public access to documents (regulation No. 1049/2001 of 30 May 2001).

### **Drivers of cigarette smuggling**

- 8) Illicit trade is the outcome of classic demand and supply: (i) demand by smokers for cheaper products or (in some markets) for specific tobacco products perceived as better quality and not available on the legal domestic market; and (ii) supply by legal and illegal tobacco manufacturers looking to increase their sales, profits and market share or to penetrate new markets, facilitated by corruption, the presence of criminal networks and weak government enforcement capacity.

### **Litigation and the European Union's response to cigarette smuggling**

- 9) In November 2000, the European Community (EC) filed a civil action in New York against Phillip Morris and RJ Reynolds, accusing the companies of smuggling cigarettes into the European Union (EU). The lawsuits against the tobacco companies had an almost immediate effect: smuggled Philip Morris International (PMI) and Japan Tobacco International (JTI) cigarette brands were no longer available on the illicit markets in Spain and Italy. Cigarette smuggling in Spain and Italy decreased from around 15% of consumption in the 1990s to 1-2% of consumption in 2006. In both countries, cutting off supply to the illicit market was thus a key factor in reducing smuggling.
- 10) In July 2004, the EU and 10 Member States concluded enforceable and legally binding agreements with PMI, which agreed to pay the EC \$1 billion over 12 years. Similar agreements were concluded with JTI in December 2007 (agreed payments: \$400 million), with British American Tobacco (BAT) in July 2010 (agreed payments: \$200 million) and with Imperial Tobacco Limited (ITL) in September 2010 (agreed payments: \$300 million). While the first two agreements (PMI and JTI) were part of a settlement of all legal disputes between the companies and the EC in relation to smuggling, the two later agreements (BAT and ITL) were not part of such a settlement.
- 11) While these lawsuits and subsequent agreements were successful in combating some forms of illicit trade within the EU (notably the smuggling of well known brands in which the major tobacco companies were complicit), the close relationship between the industry and the EU that the agreements entailed came under severe attack for being in conflict with the Framework Convention on Tobacco Control (FCTC) and its guidelines. Concerns centre on the conflict with article 5.3, (the article on the protection of public health policies with respect to tobacco control from commercial and other vested interests of the tobacco industry) and potential influence the agreement gives the industry, and to article 13 (which requires parties to implement a comprehensive ban on tobacco advertising, promotion and sponsorship, unless prevented from doing so by their constitutions or constitutional principles).

## **A global response: the FCTC and tracking and tracing systems**

- 12) The global scope and multifaceted nature of the illicit tobacco trade requires a coordinated international response and improved global regulation of the legal tobacco trade. This international response is the negotiation of the FCTC illicit tobacco trade protocol. More than 160 Parties to the FCTC gathered four times between 2008 and 2010 to negotiate an international treaty to combat the illicit trade in tobacco products. The illicit trade treaty is being negotiated as a supplementary treaty, or protocol, to the FCTC.
- 13) One of the core measures of the protocol is the tracking and tracing regime, on which a provisory agreement was reached during the negotiations in March 2010. The agreement on tracking and tracing is so far only provisory and will become meaningful only if and when an agreement is reached on all articles of the protocol and the protocol is then adopted and ratified by the parties. According to this agreement, each Party shall require that unique, secure and non-removable identification markings, such as codes or stamps, are affixed to or form part of all unit packets, packages and any outside packaging of cigarettes within a period of five years and other tobacco products within a period of ten years of entry into force of the Protocol.
- 14) It should be noted that parties to the FCTC have been less interested in tracking (the monitoring of the passage of tobacco/cigarette packages around the world) than in tracing (the re-creation of the route of the seized tobacco/cigarettes). As a result, the agreement on a tracking and tracing regime is so far only a tracing regime, as the investment for a tracking regime would imply a global, centrally managed database, which some have considered too expensive and argue there are potential data protection concerns.
- 15) Tracking and tracing is more than the unique, secure and non-removable identification markings on the packages of tobacco products. It implies reading or scanning the codes, linking the codes between packs, cartons, master cases and pallets, uploading the information to a database, recording of any shipping and receiving events along the supply chain and interconnecting the different databases. In the tobacco field, there is so far no such global and comprehensive tracking and tracing regime. However, partial tracking & tracing systems do exist. The two receiving most attention currently are the system applied in Brazil and that developed and used by PMI.
- 16) The PMI system marks master cases with unique, machine-scannable barcode labels before selling them to a first purchaser. The barcode labels also contain a human-readable translation (i.e. spelled out in letters and numbers). The database is managed by PMI, with access for authorized members of relevant agencies in the Member States or the European Commission. The database is searchable by customer order or master case barcode number. Under its agreement with the EU, PMI must continue research and development in technology for improving coding on cartons and packs. PMI has gradually introduced tracking of cartons in smuggling-sensitive markets; a data matrix

code on the teartape is scanned, registered in the database and then links each carton to a specific master case.

- 17) PMI is also printing a unique encrypted 12-character number on individual cigarette packs in some markets (called codentify). The code holds information about the place of manufacture, the machinery, date and time of production and brand, but this information is not linked to the unique coding of the cartons or master cases and is not part of the recorded data for the tracking and tracing regime.
- 18) Codentify has been developed, owned and patented by PMI, but in a recent move (and one that can be deemed highly unusual given the animosity that generally characterises relationships between TTCs) PMI decided to licence it for free to BAT, JTI and ITL. In fact PMI, JTI, BAT and ITL signed an agreement<sup>1</sup> in 2010 (which we have seen a copy of) to apply and promote codentify as the marking system of choice for their cigarette packs.<sup>2</sup> The agreement includes a shared budget for further development of codentify technology and joint advocacy to promote this system among government agencies.. The agreement states “The Parties (PMI, JTI, ITL, BAT) agree that the main objective of the Industry Working Group is to promote and implement secure, state-of-the art, cost effective Digital Tax Verification solutions... The adoption of a single industry standard, based on codentify, is a key element of this strategy.” Furthermore, it is apparent from this agreement that the industry is fearful that an alternative system be taken up instead.
- 19) The recent agreement and the close cooperation between the four major cigarette companies to replace tax stamps with a digital tax verification system based on PMI’s codentify technology, is both worrying and problematic, as tax verification should remain an exclusive competence of governments, and not of tobacco companies.
- 20) Tracking and tracing provisions of the EU-PMI agreement are global, applying to all PMI factories around the world. A problem with the unique labelling of the master cases is that smugglers are aware of the new PMI coding system and might repack the cigarettes in new master cases or cut the codes, which are visible, from them.
- 21) Linking codes from individual packs with cartons and master cases is essential, and feasible with the existing technology. Not linking codes at pack level with the codes at carton and master case level is one of the weak points of the PMI system, according to the IBM report, commissioned by the FCTC secretariat.
- 22) In addition, independent and regular audits are necessary to guarantee the validity of the system. According to our knowledge, no regular audits happen in the case of the PMI system.

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<sup>1</sup> BAT, ITG, PMI, JTI, Memo announcement of Industry Working Group Agreement on Digital Tax Verification, November 2010

<sup>2</sup> Helk A, Closing the tax gap: urgent action required, Tobacco Journal International, Nr4, 2010, 123-5.

- 23) In 2007 Brazil introduced a control and monitoring system and mandated the launch of a digital tax stamp system, with capability of identifying each individual pack. This kind of stamp uses invisible ink and features a unique, covert code with data for each pack (containing 20 cigarettes). These codes contain product data for each cigarette pack, which is uploaded to a Data Manager Server under the control of the Ministry of Finance. The stamps are encrypted with the following information: the name of the manufacturing site, the date the stamp was validated and the tax category of the stamp.
- 24) The Brazilian control and monitoring system was updated and improved in 2011. A federal law (nr 12402) was published on 3rd May 2011 requiring that every pack of cigarettes produced in Brazil for export has to be marked with a unique identification code at the production lines to determine the origin of the products and to control their movement.<sup>3</sup> The marking regime applied to cigarettes for export is a visible two-dimensional matrix code (instead of an invisible code for the domestic products) on the packs and the cartons. In addition, enforcement officials will be able to see a numeric code on the packs with a data matrix reader. At the end of the numeric code the letters BR will be added, indicating that the cigarettes were produced in Brazil. Through a link with internet, enforcement officials will have access to information (such as date and place of manufacturing, country of destination etcera) to trace the pack by introducing the numeric code of the pack. The markings for export are already introduced in the BAT factories and will be introduced in the PMI factories in September 2011. The introduction of visible data matrix codes on the cigarette packs and cartons for export in 2011 is an enormous improvement of the control and monitoring system in Brazil.

## Conclusions and Recommendations

- ❖ While in the nineties and the beginning of the millennium, the transnational tobacco companies were intimately involved in the cigarette smuggling in Europe, since 2004 they have become partners with the European Union and its Member States in the fight against illicit tobacco trade as part of four legally binding and enforceable agreements.
- ❖ While the lawsuits and the subsequent agreements were successful in reducing some forms of smuggling in the EU, the close relationship between the industry and the EU has come under severe attack as being in conflict with the FCTC and its guidelines, in particular in relation to article 5.3 (the article on the protection of public health policies with respect to tobacco control from commercial and other vested interests of the tobacco industry).
- ❖ The tobacco industry and enforcement officials are being presented as partners in the fight against illicit trade, while the same industry uses data on illicit trade that are not publicly available and have not been subject public scrutiny, to attack

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<sup>3</sup> Normative Instruction 1155, 13 May 2011

<http://www.receita.fazenda.gov.br/Legislacao/Ins/2011/in11552011.htm>

Normative Instruction 1162, 3 June 2011 <http://www.receita.fazenda.gov.br/Legislacao/Ins/2011/in11622011.htm>

Normative Instruction 1163, June 2011

<http://www.receita.fazenda.gov.br/Legislacao/Ins/2011/in11632011.htm>



- tobacco control legislation developed and supported by health officials.
- ❖ Research on illicit trade has been conducted by KPMG as a part of the agreements between the EU and PMI. According to KPMG, total cigarette consumption in the EU was 685 billion units and contraband trade accounted for 8.9% of total consumption in 2009. The content of the KPMG report was only made public in August 2011 following a formal request based on EU legislation regarding public access to documents (regulation No. 1049/2001 of 30 May 2001).
  - ❖ Transparent and public data on illicit tobacco trade are missing in most European countries.
  - ❖ Preliminary data from a survey, undertaken in 18 countries as part of the PPACTE project in 2010, indicate that the illicit cigarette trade is highest in Latvia, Romania, Bulgaria and Poland, countries with low prices, but close to Russia and the Ukraine, important suppliers of illicit cigarettes in Europe. Hence, in Europe, supply side factors (such as the supply from manufacturers in Russia and the Ukraine) appear to play a key role in determining levels of illicit tobacco trade. This finding contradicts industry arguments on this topic and highlights the need for data on smuggling to be made public.
    - There is a need for more transparency on the contacts between enforcement officials and the tobacco industry, information on the results of the agreements and for independent audits that verify the validity of the tracking and tracing system put in place by the tobacco industry.
    - There is also a need for independent data, open to public scrutiny, on the size and nature of illicit tobacco in each European country. This data must include the breakdown of seized products by manufacturer, by country where products were seized, and by brand and must also indicate how the any products were determined as “counterfeit” – whether by the tobacco company or by independent scientific verification.
    - Such data are a pre-requisite for efforts to successfully tackle the illicit tobacco trade.
  - ❖ The global scope and multifaceted nature of the illicit tobacco trade make a coordinated international response and better regulation of the legal trade essential elements in efforts to tackle illicit tobacco. This international response is the negotiation of the FCTC illicit tobacco trade protocol.
  - ❖ One of the core measures of the protocol is the tracking and tracing regime, on which a provisory agreement was reached during the negotiations in March 2010. The agreement on tracking and tracing is so far only provisory and will become meaningful if an agreement is reached on all articles of the protocol and if the protocol is adopted and ratified by the parties. According to this agreement, each party shall require that unique, secure and non-removable identification markings form part of all cigarette packages within a period of five years.
    - A global tracking and tracing system should at least comply with the following requirements:
      - A unique code on the packages of all tobacco products (packs, cartons, master cases etcetera);
      - A link between the codes by establishing parent-child relationships between different packaging units, which would allow, for instance, traceability of master cases without having to separately scan all

- cartons and packs that are inside the master case;
  - A secure system with no possibility for external stakeholders to decrypt the complete marking;
  - Be administered independently of industry interests. At a minimum, independent and regular audits must guarantee the validity of the system;
  - Recording of any shipping and receiving event along the supply chain;
  - A link between the databases of the supply partners and the national/international authorities, which would be accessible for authorised enforcement officials around the world.
- This should be combined with better regulation of the legal tobacco trade.
- ❖ A recent pan-industry agreement indicates that the major tobacco companies are now collaborating in promoting PMI's in-house marking system on cigarette packs. This agreement (which we have seen a copy of) suggests the industry fears the uptake of alternative systems. This and the willingness of these companies to collaborate on this issue raises concerns that such a system would not be in the public interests.

## **Illicit tobacco trade in Europe: issues and solutions**

### **Introduction**

Tax policy is considered the most effective strategy to reduce tobacco consumption.<sup>4</sup> Tax avoidance and tax evasion therefore undermine the effectiveness of tax policies and result in less revenue for governments, cheaper prices for smokers, and increased tobacco use.<sup>5</sup> <sup>6</sup> Tobacco smuggling and illicit tobacco trade has probably always existed since tobacco's introduction as a valuable product from the New World, but the nature of the trade has changed over time. This article clarifies definitions, reviews the key issues relating to the illicit trade and describes the different ways taxes are circumvented. The difficulties of data collection and the methods of measuring illicit trade, the size of the problem in Europe and the changing nature thereof are portrayed. The article explains the causes of illicit trade and describes the policy options to address it, examining both the EU agreements with the tobacco companies and the negotiations for a Framework Convention on Tobacco Control (FCTC) protocol on illicit tobacco trade with a special focus on tracking and tracing systems.

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<sup>4</sup> Chaloupka F, Hu T-W, Warner KE, Jacobs R, Yurekli A. The Taxation of Tobacco Products. In Jha P & Chaloupka F (Eds) Tobacco Control in Developing Countries. Oxford, Oxford University Press, 2000.

<sup>5</sup> Chaloupka F J, Straif K, Leon M J, Effectiveness of tax and prices policies in tobacco control, Tob Control 2011; Tob Control 20: 235-238.

<sup>6</sup> West R, Townsend J, Joossens L, Arnott D, Lewis S. Why combating tobacco smuggling is a priority. BMJ 2008; 337:1028-1029 (1 November 2008).

## Definitions

Tax avoidance refers to legal activities aimed at paying less or no taxes. Tax avoidance is, for instance, the purchasing of tobacco products in lower-tax jurisdictions by individual tobacco users residing in high tax-jurisdictions for their own consumption within customs constraints. In the EU, one-third of the EU citizens, who made a trip to another EU country in 2008, brought home lower-priced cigarettes.<sup>7</sup> In most cases this buying behaviour is intended for personal use and hence legal: it can be defined as tax avoidance. This article will not deal with legal activities to avoid taxes, but only with the illegal counterpart - tax evasion and illicit tobacco trade.

Tax evasion refers to illegal activities to pay less or no taxes. Tax evasion includes the purchase of smuggled and illicitly manufactured tobacco products. The most commonly used term is smuggling. However, smuggling, tax evasion and illicit trade are not the same activities. Smuggling is one type of illicit trade and refers to products illegally traded across borders; the illegal crossing of borders between jurisdictions being a key characteristic.

Illicit trade is a much broader concept than smuggling and is defined in Article 1 of the WHO FCTC as “any practice or conduct prohibited by law and which relates to production, shipment, receipt, possession, distribution, sale or purchase including any practice or conduct intended to facilitate such activity”.<sup>8</sup> Illicit trade includes both smuggled and illicitly manufactured tobacco products. Illicit manufacturing refers to the production of tobacco products contrary to law. One form of illegal manufacturing is counterfeit tobacco production in which the manufactured products bear a trademark without the consent of the owner of the trademark. Illegally manufactured products can be sold on the domestic market or smuggled into another jurisdiction. The tobacco industry often highlights, in its communication on illicit trade, the importance of counterfeit tobacco products. Yet public health experts would argue that all smuggled and illicitly manufactured products are an issue as they undermine tax policies and lead to cheaper products and more sales.

In defining the different types of illicit trade, the most relevant characteristics are origin (whether legal, illegal and/or kept secretly) and destination (whether domestic or cross border).

In the case of smuggling, an additional distinction is made based on the size of the smuggling operation: small-scale and large-scale smuggling. Small-scale smuggling involves individuals or small groups purchasing tobacco products, usually duty paid products from low tax jurisdictions that exceed customs regulations, for resale in high tax jurisdictions. Large-scale smuggling of tobacco products involves the illegal trade of large consignments of cigarettes and other tobacco products, mostly duty non paid and conducted by criminal networks, across borders. While small-scale smuggling is mostly caused by tax differences between neighbouring countries, large-scale smuggling comes forth from a lack of control on the international movement of cigarettes.

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<sup>7</sup> European Commission. Survey on tobacco. Flash Eurobarometer, no 253. Brussels, European Commission, March 2009.

<sup>8</sup> World Health Organization. WHO Framework Convention on Tobacco Control. Geneva, World Health Organization, 2003.

## The changing nature: from smuggling to illicit trade

Twenty years ago, the main type of illicit trade was large-scale cigarette smuggling: containers of cigarettes were exported, legally and duty unpaid, to countries where those products had no market, and where the cigarettes disappeared into the contraband market.<sup>9</sup> Most smuggled cigarettes were well-known brands that mysteriously got lost during their international transport under the transit regime - a regime to encourage trade between countries, that temporarily suspends custom duties, excise, and VAT payable on goods originating in country A and bound for country B, while they are in transit through other countries. However, many cigarettes simply fail to arrive at their destination, having been bought and sold by unofficial traders.<sup>10</sup> Billions of cigarettes were legally produced and exported, but would have never appeared in official import statistics, as they were then smuggled into their final market. The gap between global exports and global imports, which was 42% in 1996, was used to estimate the overall quantity of smuggled cigarettes. World cigarette production was known fairly accurately. Cigarettes do not preserve well and therefore, there are no large numbers of cigarettes in storage. Hence world production is likely to be close to world consumption. Global imports should thus be close to exports, usually after allowing for legitimate trade, such as duty free sales to travellers, diplomatic staff and military establishments, to be excluded from national statistics.

Imports, however, have long been lower than exports to an extent that cannot be explained by legitimate duty free sales. Worldwide US Department of Agriculture (USDA) data showed that recorded cigarette exports exceeded recorded imports by more than 300 billion (one third of global exports) each year in the period 1995-2000. Although a cautious approach is needed for the interpretation of USDA data, the most plausible explanation for these missing cigarettes is smuggling.<sup>11,12</sup>

More recent USDA statistics from the beginning of the millennium show that the gap between recorded cigarette imports and exports has been reduced to around 150 billion cigarettes annually or just under 20% of global exports.<sup>13</sup> The reduction does probably not reflect a drop in illicitly traded cigarettes but indicates the changing nature of the illicit cigarette trade.

The reduction in the gap between exports and imports occurred as some major international tobacco companies in Europe and the USA reviewed their export practices as a result of tax regulations, investigations and lawsuits by the authorities. American manufacturers changed their export practices such that cigarette exports from the United States to Belgium (a transit country) fell from 49 billion in 1997 to 3 billion in 2001.<sup>14</sup> Brazilian manufacturers reduced their exports by 89% as a result of a 150%

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<sup>9</sup> Joossens L, Raw M. How can cigarette smuggling be reduced? *BMJ*; 2000; 321:947-950 (14 October 2000).

<sup>10</sup> Jha P, Chaloupka F, Curbing the epidemic. Governments and the economics of tobacco control, Series: development in practice, World Bank, Washington DC, 1999.

<sup>11</sup> Joossens L, Raw M. Tobacco smuggling and cross border shopping in Europe. *BMJ* 1995; 310:1393-97.

<sup>12</sup> Joossens L, Raw M. Cigarette smuggling in Europe: who really benefits? *Tobacco Control* 1998; 7: 66-71.

<sup>13</sup> IARC, Methods for evaluating tobacco control policies, Lyon, International Agency for Research on Cancer, 2008.

<sup>14</sup> Joossens L, Raw M. Progress in combating cigarette smuggling: controlling the supply chain. *Tobacco Control* 2008; 17:399-404.

increase in export tax in 1999<sup>15</sup> and British companies decreased their exports to 'phantom' markets, such as Moldova, Latvia, Kaliningrad, Afghanistan and Andorra in the beginning of the millennium.<sup>16</sup>

While the large-scale smuggling of well-known brands decreased in Europe, other types of illicit trade, including counterfeiting, undeclared production by the major cigarette manufacturers and so called "cheap" or "illicit whites" emerged. In the UK, for instance, 46% of all large cigarette seizures in 2007-8 were counterfeit. According to UK Customs, the bulk of counterfeit cigarettes are manufactured in China and, to a lesser extent, Eastern Europe. They are typically shipped in bulk directly to the UK by sea, or re-routed via other EU ports.<sup>17</sup> The size of the counterfeit market might be overestimated as customs officials often rely on the industry to determine whether cigarettes are counterfeit or not and the industry has an incentive to classify seized cigarettes as counterfeit. Illegal factories also exist in EU Member States, especially in Poland and some Baltic States, and are a significant source of counterfeit cigarettes.<sup>18</sup>

Undeclared production is another type of illicit manufacturing. Undeclared production is a major problem in many regions<sup>19</sup> and is often due to inadequate control of manufacturing by the authorities. The illegal nature of illicit manufacturing means that the trade is registered in neither the official export nor the import data. In 2008 the big international tobacco companies manufactured and imported nearly 130 billion cigarettes into the Ukraine – 30% in excess of what the local market can consume. These "extra" cigarettes disappear in the Ukraine and fuel the black market in the rest of Europe.<sup>20</sup>

Besides illegal manufacturing, another change in the illicit trade was the emergence of new cigarette brands, produced in a rather open manner at well known locations, which are only or mainly intended for the illegal market of another country. As manufacturing is apparently in accordance with national legislation and not or only minimally subject to controls, the manufacturers can buy sophisticated machinery without risk of confiscation. Under these conditions, a certain standard of quality in the production process can be achieved. Not counterfeiting international brands gives the advantage of avoiding legal action by the international tobacco companies. The best known cigarette brand in this category in Europe is 'Jin Ling', a cigarette brand with a Chinese name, manufactured in Russia, apparently in accordance with Russian domestic law, with the look and the taste of an American blend (Camel), but destined for the illegal market in the EU. Jin Ling rapidly became one of the most seized cigarette brands in the European Union.<sup>21</sup> Jin Ling is produced in the Free Zone of Kaliningrad (Russia) and profits from the Free Zone regime, which is characterised by a relief from Customs duties, formalities

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<sup>15</sup> Shafey O et al, Case studies in international tobacco surveillance, *Tobacco Control* 2002; 11:215-219.

<sup>16</sup> Joossens L, Raw M. Progress in combating cigarette smuggling: controlling the supply chain. *Tobacco Control* 2008; 17:399-404.

<sup>17</sup> HM Revenue & Customs, *Tackling Tobacco Smuggling Together*, London, November 2008.

<sup>18</sup> Europol, *EU organised crime threat assessment, OCTA 2010*, The Hague, 2011.

<sup>19</sup> Euromonitor International, *Illicit trade in tobacco products. A world view*, London, July 2010.

<sup>20</sup> Lavrov V. Ukraine's 'lost' cigarettes flood Europe. Washington, The Center for Public Integrity, 2009. <http://www.publicintegrity.org/investigations/tobacco/articles/entry/1438/>

<sup>21</sup> Roman Shleynov, Stefan Candea, Duncan Campbell, Vlad Lavrov. Made To Be Smuggled. Russian contraband cigarettes 'flooding' EU. Center of Public Integrity: Washington, 2008 Available at: <http://www.publicintegrity.org/investigations/tobacco/articles/entry/763/> (accessed on 19 January 2011).

and procedures.<sup>22</sup> Jin Ling is traded outside the control of customs and materials for its production are therefore imported without the payment of customs duties. “Cheap whites” is the tobacco industry term for those cigarette brands; a term also used in some international enforcement agencies reports. The European Commission uses the term ‘illicit whites’, which are defined as “brands manufactured legitimately in one market, either taxed for local consumption or untaxed for export, and sold knowingly to traders who transport them to another country where the products are sold illegally without domestic duty paid.”<sup>23</sup> Other illicit whites are ‘Raquel’, produced in Cyprus and ‘Richman’, produced in UAE. In other parts of the world (eg Taiwan) a similar phenomenon has been observed. In order to avoid problems with trademarks and investigations of the multinational tobacco companies, smugglers no longer copy (counterfeit) international brands, but create their own brands such as ‘Mo-Shen’ (‘the baal’), ‘Fu-qi’ (‘good fortune’) and ‘Shan’ (‘the Chinese fir’), to suit the needs of illicit buyers in Taiwan.<sup>24</sup>

## Methods of measuring illicit tobacco trade

The IARC handbooks on Methods for Evaluating Tobacco Control Policies (Volume 12, 2008) and Tobacco Taxation (Volume 14, 2011, in press) describe the different methods to measure illicit trade. The three most used methods are described below.

1) Comparison of Tax Paid Sales and Individually Reported Consumption Measures - If there are no reporting biases in measures of tax paid sales and measures of average consumption and prevalence obtained from representative population surveys, then the difference between the two should reflect the extent of overall tax avoidance and evasion (IARC, 2008). However, it is likely that there will be some temporal biases in tax paid sales measures, as these generally reflect shipments at the factory or wholesale level rather than the actual consumption. More importantly, population surveys of tobacco use are likely to show underreporting {Warner 1990<sup>25</sup>; Gallus et al., 2011<sup>26</sup>}. To the extent that the bias in each is constant over time, changes in the difference between the two can indicate whether tax avoidance and evasion are increasing or decreasing over time.<sup>27</sup> However, as social norms against tobacco use strengthen over time, the extent of underreporting in population surveys is likely to grow, reducing the validity of a measure based on this approach (IARC, 2008). The UK is one of the few countries to produce reliable yearly estimates of illicit trade in Europe, with a methodology based on the discrepancy between trends in legal sales and household survey smoking habits.<sup>28</sup> In France, the difference between registered cigarette sales and cigarettes declared as being smoked was approximately 20% of legal sales in 2005. Most of this difference can

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<sup>22</sup> Trampus F, Customs and free zones, WCO News, February 2008: 31-33

<sup>23</sup> European Parliament, Parliamentary questions by Franz Obermayr, Answer given by Mr Semeta on behalf of the Commission, Subject: Cigarette smuggling, E-9307/2010, 4 January 2011.

<sup>24</sup> Chang-Fa Lo et al, Combating against tobacco smuggling: Taiwan’s experience, presentation at the 2008 International Conference on Illicit trade in Tobacco Products, Taipei, August 1-2 2008.

<sup>25</sup> Warner KE. Possible increases in the underreporting of cigarette consumption. *J Am Stat Assoc* 1978;73:314e18.

<sup>26</sup> Gallus S, Tramacere I, Boffetta P, Fernandez E, Rossi S, Zuccaro P, Colombo P, La Vecchia C. Temporal changes of under-reporting of cigarette consumption in population-based studies. *Tob Control*. 2011 Jan;20(1):34-9.

<sup>27</sup> Merriman D (2001). Tool 7. Smuggling. Understand, measure and combat tobacco smuggling. Economics of tobacco toolkit. World Bank, Washington DC, 2001.

<sup>28</sup> HM Revenue, Measuring Tax Gaps, London, March 2010.

be explained by legal tax avoidance (cross-border shopping in neighbouring countries) rather than by large scale smuggling.<sup>29</sup>

2) Survey of Tobacco Users' Purchase Behaviours – Representative surveys of tobacco product users that collect information on various aspects of purchase behaviour, including purchase location and price, can be helpful in assessing the extent of various forms of individual tax avoidance, including cross-border shopping, direct purchases, and duty-free purchases (IARC, 2008; Gallus et al., 2009)<sup>30</sup> These surveys provide figures based on self-report, and consequently likely under-estimated. In fact, validity of self-reports for socially unacceptable issues such as direct questions on tobacco purchase from illicit trades remains open to discussion.

3) A third method is Observational Data Collection – Products can be examined for tax stamps, local warning labels, other pack markings, and product constituents to identify products that do not bear the appropriate stamps/labels/markings or that include constituents that differ from those contained in locally manufactured products. Based on this methodology, a 2004 survey of the Cancer Epidemiology & Prevention Division of the city of Warsaw suggested that 11% of smokers could have bought cigarettes on the illicit market in Poland.<sup>31</sup> As part of the International Tobacco Control (ITC) survey in Poland, interviewers were trained to recognize Polish tax stamps, warning labels, and other pack markings, as well as for packs from the Ukraine, Belarus, and the Russian Federation in an effort to assess the extent of tax avoidance/evasion in the Polish cigarette market (IARC, 2008). Merriman applied a novel twist on this approach by collecting littered cigarette packs around Chicago in an effort to assess the extent of avoidance/evasion of the local Cook County and Chicago cigarette taxes, finding that three-quarters of the packs collected in Chicago did not bear the Chicago tax stamp.<sup>32</sup> These approaches are limited by observers' ability to distinguish between licit and illicit (particularly counterfeit) products and differentiate between licit and illicit products based on product constituents, but do appear promising for capturing at least some aspects of tax avoidance and evasion (IARC, 2011).

## **How big is the illicit cigarette trade?**

Measuring illicit cigarette trade is methodologically challenging for many reasons. It is an illegal activity and illegal traders are unlikely to record their activities as legal traders do. For security reasons, data on illicit trade are usually difficult to collect, as law enforcement agencies often prefer not to publicize the scope of their activity. All methods to estimate illicit trade have their limitations and not all studies clearly describe their methodology or these limitations. Also, the data source may bias the

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<sup>29</sup> Lakhdar B. Quantitative and qualitative estimates of cross-border tobacco shopping and tobacco smuggling in France. *Tobacco Control* 2008;17: 12-16.

<sup>30</sup> Gallus S, Tramacere I, Zuccaro P, Colombo P, La Vecchia C. Cigarette smuggling in Italy, 2005-8. *Tob Control*. 2009 Apr;18(2):159-60.

<sup>31</sup> Gumkowski J, Prezwozniak K, Zatonski W. Cigarette smuggling in Poland: tobacco industry views and smokers behaviours. 13th World Conference on Tobacco or Health, Washington, 13 July 2006.

<sup>32</sup> Merriman D (2010). The Micro-Geography of Tax Avoidance: Evidence from Littered Cigarette Pack in Chicago. *Am Econ J:Econ Policy*, 2:61-84 doi:10.1257/pol.2.2.61.

estimate. For example, tobacco industry experts may have an incentive to exaggerate the smuggling problem in order to lobby for reduced taxation of the product, while public health advocates may have an incentive to understate the size of the smuggling problem in order to argue for tax increases. In 2009 Joossens, Merriman, Ross and Raw collected data on estimates of illicit market share in 84 countries, representing 85% of the world population, which were based on academic articles, official government publications, estimates from market research companies, tobacco trade journal articles, newspaper articles, and sometimes estimates from personal contacts in customs organisations. These data proved to vary greatly in their rigor. For example, some data expressed the size of the illicit market as a percentage but without defining or even mentioning what it was a percentage of, nor was there a clearly defined methodology for assessing whether an estimate was accurate. That is, the estimate has to look reasonable in terms of the country's population, smoking prevalence, legal infrastructure and so on. Thus, a combination of methods (including informed expert judgement) and -whenever possible- sources, is often necessary to cross-validate estimates.<sup>33</sup>

Bearing in mind these considerations, Joossens, Merriman, Ross and Raw updated estimates of the illicit cigarette trade from 84 countries around the world, using the latest available estimates from 2007 or as close to 2007 as possible. Our analysis shows that 11.6% of cigarette consumption in these countries is illicit, 16.8% in low income countries, 11.8% in middle income countries, 12.7% in low and middle income countries combined, and 9.8% in high income countries, and that the total annual illicit consumption in these 84 countries is about 657 billion cigarettes a year, 533 billion in low and middle income countries and 124 billion in high income countries.

Table 1. Ten countries with the greatest illicit trade in 2007 (billions of cigarettes) (the % of the illicit market in brackets).

1	China	214 (9%)
2	Russian Federation	76 (23%)
3	United States	62 (19%)
4	EU	58 (8.5%)
5	Brazil	38 (35%)
6	Philippines	19 (19.4%)
7	India	18 (14%)
8	Indonesia	14 (5.5%)
9	Pakistan	13 (17%)
10	Turkey	12 (10.5%)

## The size of illicit tobacco trade in Europe

Transparent and public data on illicit tobacco trade are missing in most European countries. Some estimates, based on different methodologies, will be described:

According to UK Customs officials the illicit market share (as a % of total consumption)

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<sup>33</sup> Joossens L, Merriman D, Ross H, Raw M. The impact of eliminating the global illicit cigarette trade. *Addiction*, 2010; 105: 1640-9.



in 2008-9 was 11% for cigarettes and 49% for hand rolled tobacco in the UK.<sup>34</sup> According to Europol, an observable increase in counterfeit hand rolling tobacco probably reflects increased demand for a cheaper alternative to cigarettes as result of the global economic crisis.<sup>35</sup>

Studies based on six surveys in the period 2004-6 concluded that 11% of cigarettes for sale in Poland were illicit.<sup>36</sup>

Independent researchers estimated illegal cigarette sales in Estonia at 17% of the total cigarette market in 1999<sup>37</sup> and between 19% and 32% in 2003.<sup>38</sup>

The European regional office of the World Health Organisation estimates that in the Russian Federation 20–30% of cigarettes are smuggled and WHO concludes that the Russian Federation remains the biggest illicit European market in terms of volume.<sup>39</sup> Independent research estimated that 23% of legal sales were illicit in the Russian Federation in 2004 (70 billion cigarettes).<sup>40</sup>

Based on in-depth analysis of data collected by the professional services company KPMG, a European Commission study estimated that, in 2004, total market penetration of illicit cigarette trade represented approximately 8–9% of cigarette sales in the EU (which had 25 Member States at the time, designated EU25).<sup>41</sup> The European Commission report also noted that the illicit market share in the then new EU Member States – Estonia, Hungary, Lithuania, Poland and Slovakia – was far above the EU25 average. The European Commission report, however, has its limitations, as it is based on the amount of cigarettes that are seized in the EU, and on studies provided by the tobacco trade and governments, mostly without clear explanation of the methodology used.

KPMG continued its research on illicit trade as part of the obligations of the 2004 agreement between Philip Morris International (PMI) and the European Union. According to KPMG, total cigarette consumption in the EU was 685 billion units and contraband trade accounted for 8.9% of total consumption in 2009.<sup>42</sup>

The content of the KPMG report was only made public in August 2011 following a formal request based on EU legislation regarding public access to documents (regulation No. 1049/2001 of 30 May 2001).<sup>43</sup>

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<sup>34</sup> HM Revenue & Customs, *Measuring Tax Gaps 2010*, London, September 2010.

<sup>35</sup> Europol, *EU Organised Crime Threat Assessment (OCTA) 2010*, The Hague, 2011

<sup>36</sup> Ciercierski C. *The market for legal and illegal cigarettes in Poland: a closer look at demand and supply-side characteristics*. IDRC working papers series/ITEN working papers series No 1. Chicago, IDRC, 2007.

<sup>37</sup> Anneli T, Raul K, Teh-Wei Hu. *The Economics of Tobacco in Estonia*. Health, Nutrition and Population (HNP) Discussion Paper No 19. Washington, World Bank, 2004.

<sup>38</sup> Ahern E. *Illegal market of cigarettes in Estonia*. Tallinn, Estonian Institute of Economic Research, 2005.

<sup>39</sup> World Health Organization. *The European Tobacco Control Report 2007*. World Health Organization, Copenhagen, 2007.

<sup>40</sup> Ross H, Sharif S, Gillmore A. *Economics of tobacco taxation in Russia*. Paris, International Union Against Tuberculosis and Lung Disease, 2008.

<sup>41</sup> KPMG. *Study on the collection and interpretation of data concerning the release for consumption of cigarettes and fine-cut tobacco for rolling of cigarettes*. Brussels, European Commission, 2005.

<sup>42</sup> PMI's comments on Rand Europe's final report, *Assessing the impacts of revising the tobacco products directive*, October 20, 2010, Lausanne.

<sup>43</sup> [http://www.pmi.com/eng/tobacco\\_regulation/illicit\\_trade/documents/Project\\_Star\\_2010\\_Results.pdf](http://www.pmi.com/eng/tobacco_regulation/illicit_trade/documents/Project_Star_2010_Results.pdf)

Nonetheless, some data are used by PMI in its submissions to the commission or in press articles. According to a Bulgarian press article, for instance, PMI claims that the percentage of contraband cigarettes in relation to total consumption in 2009 was the highest in Latvia (43%), followed by Lithuania (42%) and Bulgaria (34%).<sup>44</sup> In another article, a PMI managing director claims that contraband fell to 14% in Romania in 2011.<sup>45</sup>

BAT commissioned similar studies, without mentioning the organization that did the research, again not available in the public domain and again without clear explanation of the used methodology. According to the study commissioned by BAT, the percentage of non-taxed cigarettes was the highest in Lithuania (49%) and in Latvia (41%) in 2010 followed by Norway (33% in 2010). The question remains how BAT determines 'non-taxed'.<sup>46</sup> Norway is known to have important legal cross-border shopping, but not illicit trade. Lund calculated that a quarter of the sales in the years 1997-2001 were untaxed: 24% cross-border shopping and only 1% smuggled.<sup>47</sup> Data from the Eurobarometer in 2008 (see below) seem to confirm that the main problem for Norway is not smuggling, but cross-border shopping. Industry data on illicit trade, however, always contain the risk of being presented in such a manner in order to suit the industry's own interests, circumventing reality.

According to a Eurobarometer survey among 26,500 Europeans (EU27 plus Norway) in December 2008, just over one tenth of EU citizens (12%) have seen tobacco products being sold in the past six months, which they think might have been smuggled into the country. The proportion of respondents who have seen potentially smuggled tobacco products being sold in this period is the highest in Lithuania (36%), followed by Greece (25%), then Poland, Hungary and Latvia (22%-24%). In Belgium, the Netherlands, Italy, Portugal, Luxembourg and Denmark, on the other hand, only 5% of respondents have seen potentially smuggled tobacco products in the past six months. In Norway, where in January 2008 a packet of Marlboro cost 9 euro (the country with the highest cigarette prices in the world) only 6% of survey respondents had seen tobacco products during the last 12 months, which they believed were smuggled. In Lithuania, where in January 2008 a packet of Marlboro cost 1.5 euro (the country with the lowest cigarette prices in the EU) the percentage was 36%.<sup>48</sup> Hence, the Eurobarometer survey does not measure illicit trade in the EU countries, but provides an indication of the size of illicit trade in those countries. It is the only information on illicit trade that is publicly available for all EU countries.

## **The causes of illicit tobacco trade**

Illicit trade is the outcome of classic demand and supply: demand by smokers for cheaper or specific tobacco products that are perceived as better quality and not available on the domestic market, and supply by legal and illegal tobacco manufacturers looking for more

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<sup>44</sup> Sofia News Agency, Bulgaria 3<sup>rd</sup> in EU by cigarette smuggling, 5 January 2011.

<sup>45</sup> Globalink News Service, Cigarette contraband falls to 14 percent, says Philip Morris - Business Review, May 27, 2011.

<sup>46</sup> Ross Marié, Anti illicit trade briefing (Power Point Presentation), British American Tobacco, January 2011.

<sup>47</sup> Lund KE, The scale of border trade, tax-free import and tobacco smuggling to Norway, Tidsskr Nor Laegeforen; 2004 Jan 8;124(1):35-8.

<sup>48</sup> European Commission. Flash Eurobarometer number 253, survey on tobacco. Brussels, European Commission, March 2009.

profit, more sales, increasing market shares or the opportunity to penetrate new markets, facilitated by corruption, the presence of criminal networks and weak government enforcement capacity.

Smokers' use of illicit tobacco is related to price and availability.<sup>49</sup> The demand for illicit tobacco products is strongly influenced by reduced price, often 30% to 50% cheaper than legal products.<sup>50</sup>

Supplying the illicit market is attractive to companies and traders because of the low cost of manufacturing - as low as 5 US cents a pack in Paraguay<sup>51</sup> - and to the potential gains of selling without (i.e. by illegally avoiding) taxes.

Evading tax by diverting tobacco products into the illicit market (where sales are largely tax free) generates a considerable profit margin for illicit traders. Organized smugglers can buy a container of Jin Ling cigarettes in Europe (on which they pay no taxes) for US\$100,000.<sup>52</sup> The value of such a container in the EU is on average US\$2 million, which provides an enormous profit margin. In the UK, the potential profit is even three times higher.<sup>53</sup>

It is crucial to note, however, that the solution to this problem is not to lower tax levels, as the tobacco industry frequently claims. The tobacco industry has claimed that high taxes drive smuggling<sup>54</sup> and has sometimes argued successfully to governments that tobacco tax should not be increased because this would increase the level of smuggling. The argument is that smugglers will smuggle into a country where they can make the highest profit, and that these are the countries where tax is a high proportion of the price, leaving a large margin to reduce the price — by avoiding tax — and still retaining a profit. However, reality has shown that the overall level of smuggling is higher in countries that have lower cigarette prices (generally also countries with a lower tax rate) than in countries that have high prices; indeed this is illustrated in the section above which shows that levels of smuggling are currently the highest in the EU Member States with the lowest prices. Although a high tax margin may indeed provide the initial incentive to smuggle, the data show that it is not the only factor. Other key factors include the ease and cost of operating in a country, industry participation, the presence of organized crime networks, the likelihood of being caught, the punishment if caught, corruption levels, and so on.<sup>55</sup>

While illicit trade is an outcome of demand and supply, the tobacco industry has consistently focused on the demand side to explain the illicit trade and argues that illicit trade arises because of high taxation. Analyses by the World Bank have shown that high levels of illicit tobacco products are linked more closely to corruption and tolerance of

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<sup>49</sup>Moodie C, Hastings G, Joossens L, Young adult smokers' perceptions of illicit tobacco and the possible impact of plain packaging on illicit tobacco purchasing behaviour, *European Journal of Public Health*, 2011 accepted for publication

<sup>50</sup>West R, Townsend J, Joossens L, Arnott D, Lewis S. Why combating tobacco smuggling is a priority. *BMJ* 2008; 337:1028-1029 (1 November).

<sup>51</sup>Ramos A. The illegal trade in tobacco in the Mercosur Countries, *Trends in Organised Crime* 2009; 12, nr3-4: 267-306.

<sup>52</sup>Roman Shleynov, et, 2008.

<sup>53</sup>European commission, Contraband and counterfeit cigarettes: frequently asked questions, Brussels, 15 July 2010. <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/334&type=HTML>

<sup>54</sup>Joossens L, Raw M, 2008.

<sup>55</sup>Joossens L, Merriman D, Yurekli A, Chaloupka F. Issues in the smuggling of tobacco products. In Jha P, Chaloupka F (Eds). *Tobacco Control Policies in Developing Countries*. Oxford, Oxford University Press, 2000.

contraband sales.<sup>56</sup> The global trade in illicit tobacco products occurs in low tax as well as high tax jurisdictions, results from a lack of control on cigarette manufacturing and the movement of cigarettes across international borders, and is run by criminal organizations with sophisticated systems for distributing smuggled cigarettes. Illicit trade is more common in low income than in high income countries.<sup>57</sup> The preliminary data from a survey, undertaken in 18 countries as part of the Pricing Policies and Control of Tobacco in Europe (PPACTE) project in 2010, seem to indicate that the illicit cigarette trade is highest in Latvia, Romania, Bulgaria and Poland, countries with low prices, but close to Russia and Ukraine, important suppliers of illicit cigarettes in Europe. Hence, in Europe supply side factors (such as the supply from manufacturers in Russia and Ukraine) appear to play a key role and should not be underestimated.

## **Policies to combat the illicit trade**

Sweeting and colleagues<sup>58</sup> made an extensive review of the effectiveness of measures to combat illicit cigarette trade. The authors identified four types of illicit trade:

1. Legal products, illegally distributed at national level (for instance, the legal production of leave tobacco and its sales to users who do not pay taxes in Australia).<sup>59</sup>
2. Legal products, illegally distributed cross-border (for instance, legally manufactured cigarettes in Europe destined for the illegal market in Africa).<sup>60</sup>
3. Illegal products destined for the domestic market (for instance, undeclared cigarette manufacturing destined for the illegal domestic market in Brazil).<sup>61</sup>
4. Illegal products destined for a cross border market (for instance, illicit manufactured cigarettes in China destined for the illegal market in Europe).<sup>62</sup>

According to the authors, both the type of illicit trade and the means of distribution influence the effectiveness of different policies and the unintended consequences of action. For example, policy measures that were effective in the 1990s for legally manufactured cigarettes smuggled across borders are less effective for the illicitly manufactured and counterfeit cigarettes that dominate contraband activity in many countries today.

Case studies indicate that while illicit trade sources often emerge domestically, given the ease of transport and manufacturing, sources can easily be displaced to neighbouring or overseas jurisdictions. Inter-agency cooperation (both domestic and international) emerges as a vital component of all successful anti-contraband strategies. The dynamic

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<sup>56</sup> Merriman D, Yurekli A, Chaloupka FJ. How Big is the Worldwide Cigarette-Smuggling Problem. In Jha P & Chaloupka FJ (Eds) Tobacco Control in Developing Countries. Oxford, Oxford University Press, 2000.

<sup>57</sup> Joossens L, Meriman D, Ross H, Raw, M, 2010.

<sup>58</sup> Sweeting J, Johnson T, Schwartz R. Anti-Contraband Policy Measures: Evidence for Better Practice - Summary Report. Toronto, The Ontario Tobacco Research Unit, 2009.

[http://www.otru.org/pdf/special/special\\_anti\\_contraband\\_measures.pdf](http://www.otru.org/pdf/special/special_anti_contraband_measures.pdf)

<sup>59</sup> Geis G, Chop-chop: illegal cigarette market in Australia, Working Paper No.48, Centre for Tax System Integrity, Canberra, 2005.

<sup>60</sup> United Nations Office on Drugs and Crime. Transnational trafficking and the rule of law in West Africa: a threat assessment. Vienna, 2009.

<sup>61</sup> Ramos, 2009.

<sup>62</sup> Shen A, Antonopoulos, G.A. and Von Lampe K, 'The Dragon Breathes Smoke': Cigarette Counterfeiting in the People's Republic of China. The British Journal of Criminology 2010; 50, nr 2:239-258.

nature of illicit trade supply requires a comprehensive approach that focuses on both immediate and future threats. Policies designed to ensure that contraband tobacco products do not appear in the legitimate retail sector (such as tax-paid markings, licensing, record-keeping) and measures to ensure that counterfeit products are easily identified (such as enhanced taxation stamps) are vital. Adequate investment in enforcement is also essential to the success of anti-illicit trade measures. Given the global scope of the phenomenon, greater international cooperation and information sharing is absolutely crucial.<sup>63</sup> In the near future, it might be necessary to monitor the import and export of raw tobacco and materials (such as cigarette papers and filters) globally in order to control illicit manufacturing, undeclared production and manufacturers of cheap whites.

A central theme in the research findings is the multifaceted nature of successful anti-illicit trade tobacco policies, which require combinations of regulation, fiscal/taxation policy, enforcement, and public awareness campaigns.

## **The EU agreements with the tobacco industry**

By 1998, European governments and European Anti-Fraud Office officials believed that the major cigarette manufacturers were selling American cigarettes to traders who resold them into black markets within the EU set up to evade taxes, and had begun investigations. In November 2000 in New York, the EC filed a civil action against PMI, RJ Reynolds, and Japan Tobacco International (JTI)<sup>64</sup> accusing the companies of “an ongoing global scheme to smuggle cigarettes, launder the proceeds of narcotics trafficking, obstruct government oversight of the tobacco industry, fix prices, bribe foreign public officials, and conduct illegal trade with terrorist groups and state sponsors of terrorism”.<sup>65</sup> In 2001, 10 EU countries joined the lawsuit.

In 2004, the EC and Member States dropped the case against Phillip Morris in return for an enforceable and legally binding agreement. Under the agreement, PMI agreed to pay the EC \$1 billion over 12 years.<sup>66</sup> <sup>67</sup> The key feature of this agreement is that PMI will be heavily penalized if it does not control smuggling of its cigarettes. PMI agreed to make payments in the event of any seizures of its *genuine* products above 50,000 cigarettes in the 10 EU countries that were party to the lawsuit. If more than 90 million genuine cigarettes are seized in those 10 EU countries during one year <sup>68</sup>, PMI agreed to pay 5 times the amount of taxes due. The agreement also required PMI to control future smuggling through a range of measures, which included controlling the distribution

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<sup>63</sup> Sweeting et al, 2009.

<sup>64</sup> In 1999, JT bought RJ Reynolds International (RJRI). The resulting company is JT International.

<sup>65</sup> US District Court. European Community complaint against Philip Morris, RJ Reynolds and Japan Tobacco. United States District Court, Eastern District of New York, New York, 3 November 2000, <http://www.nyed.uscourts.gov/pub/rulings/cv/2000/00cv6617cmp.pdf>

<sup>66</sup> Europa press release. Payments by Philip Morris International, Inc. under the Anti-Contraband and Anti-Counterfeit Agreement: the European Community and 10 Member States agree the distribution of approximately 1 billion USD. Brussels: Europa, 5 October 20.

<sup>67</sup> The full text of the agreement is available at [http://ec.europa.eu/anti\\_fraud/budget/cig\\_smug/2004\\_en.html](http://ec.europa.eu/anti_fraud/budget/cig_smug/2004_en.html).

<sup>68</sup> Belgium, France, Spain, Portugal, Italy, Germany, Netherlands, Finland, Greece and Luxembourg.

system and contractors supplied, and implementing tracking and tracing measures. Between the implementation of the Agreement and end-June 2007, more than 1000 individual seizures were reported, totaling over 900 million cigarettes, with about 80% of these cigarettes found to be counterfeit.<sup>69</sup> In total some 50 million euros in seizure payments were made since the implementation of the agreements.<sup>70</sup>

Similar agreements were concluded with JTI (which had by then acquired the international division of RJ Reynolds) in December 2007 (agreed payments: \$400 million over 15 years)<sup>71</sup>, with British American Tobacco (BAT) in July 2010 (agreed payments: \$200 million over 20 years)<sup>72</sup> and with Imperial Tobacco Limited (ITL) in September 2010 (agreed payments: \$300 million over 20 years)<sup>73</sup>. The three agreements also include seizure payments, similar to those included in the PMI agreement (see above). While the first two agreements (PMI and JTI) were part of a settlement of all legal disputes between the companies and the EC in relation to smuggling, the two latter agreements (BAT and ITL) were not part of such settlement. Neither the BAT Agreement nor the ITL Agreement signed in 2010 settled any existing legal claim; both established extensive systems of cooperation between the manufacturer and the relevant authorities of the EU and various Member States.<sup>7475</sup>

The investigations, which started in 1998 and the lawsuits, filed in 2000 against the tobacco companies, were effective. Cigarette smuggling in Spain and Italy decreased from around 15% of consumption in the 1990s to 1–2% of consumption in 2006. In both countries, cutting off supply from the major tobacco companies to the illicit market was a key factor in reducing smuggling.<sup>76</sup> In this instance, investigating the role of the industry seems to have been an effective strategy to combat smuggling. The European Anti-Fraud Office (OLAF) investigation of the tobacco companies in 1998 and the Spanish and Italian customs activities and ensuing lawsuit against the tobacco companies appear to have had a significant impact. Over the period covered by these actions, there was a dramatic fall in the dubious US exports to Europe. A plausible interpretation of the data is that the industry changed its export practices promptly in response to the investigations. What the investigations and threat of legal action did, was change the risk-benefit equation for the industry. The prospect of a lawsuit and possible financial penalties increased the risks of supplying cigarettes that were reaching the illicit market and reduced the benefits. The changes in export practices were then reinforced and consolidated by the formal, legally binding agreement.<sup>77</sup>

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69 FCTC, Conference of the parties, Existing agreements and arrangements relevant to the objective of the Intergovernmental Body, FCTC/COP/INB-IT/1/INF.DOC./1, 12 December 2007.

<sup>70</sup> Austin Rowan, "Combating illicit trade through structured cooperation at a European and World level", Ankara, March 2011.

<sup>71</sup> The full text of the agreement is available at [http://ec.europa.eu/anti\\_fraud/budget/cig\\_smug/2007\\_en.html](http://ec.europa.eu/anti_fraud/budget/cig_smug/2007_en.html).

<sup>72</sup> The full text of the agreement is available at [http://ec.europa.eu/anti\\_fraud/budget/2010/BAT-Main-Agreement.pdf](http://ec.europa.eu/anti_fraud/budget/2010/BAT-Main-Agreement.pdf).

<sup>73</sup> The full text of the agreement is available at [http://ec.europa.eu/anti\\_fraud/budget/2010/Main-Agreement-sept2010.pdf](http://ec.europa.eu/anti_fraud/budget/2010/Main-Agreement-sept2010.pdf).

<sup>74</sup> Heyward M, Legal analysis of the agreements between the European Union, Member States, and multinational tobacco companies, New York, September 2010.

<sup>75</sup> While the PMI agreement has been signed by all 27 EU countries, not all EU countries have signed the BAT and JTL agreement in 2010. The list of the countries which signed the later agreements is not available on the website.

<sup>76</sup> Joossens L, Raw, 2008.

<sup>77</sup> Ibid

While the lawsuits and the subsequent agreements were successful in combating smuggling in the EU, the close relationship between the industry and the EU that the agreements entailed came under severe attack for being in conflict with the FCTC and its guidelines, in particular in relation to article 5.3, (the article on the protection of public health policies with respect to tobacco control from commercial and other vested interests of the tobacco industry).

According to a legal analysis by Madeleine Heyward<sup>78</sup>, “the ‘cooperative approach’ of the agreements is a concern in relation to this aspect of effective implementation of article 5.3 of the FCTC. While some interaction with the industry is necessary to effectively combat illicit trade (for example, in relation to identification of counterfeit cigarettes), not all of the matters regulated under the agreements strictly require cooperation with tobacco companies. The agreements are not drafted, and have not been portrayed to the public, in such a way as to avoid the creation of perceptions of cooperation or partnership.” The industry does indeed present the actions following the agreement as if they were cooperative matters of partnership and collaboration between them and the relevant governments (see Box 1).

**Box 1: Tobacco industry presentation of its agreements with the Commission on cigarette smuggling**

On the website of PMI, the intense collaboration is expressed in the following way: “The agreement outlines a long-range and comprehensive framework for national governments, the European Commission, and PMI to fight the illicit trade in cigarettes together.”<sup>79</sup>

On the website of JTI: “The JT Group cooperates with government authorities around the globe in its efforts to combat the illegal trade of cigarette products. This problem is detrimental to the brand value of our products and it penalizes legitimate retailers and our customers, while depriving governments of revenues.”<sup>80</sup>

On the website of BAT: “Along with the European Commission and the Member States, we are sending out a very strong message to the criminals who counterfeit our products and evade taxes by smuggling - their activities will not be tolerated. We are confident that by working alongside the European Commission and the Member States, we will make a serious impact on the levels of illicit trade in tobacco.”<sup>81</sup>

In the 2010 Annual report of ITL: “The (EU-ITL) agreement underlines our commitment to partner with authorities worldwide in the fight against tobacco smuggling and counterfeiting. We encourage governments and regulators to take into account the issues surrounding illicit trade when regulating tobacco. We are particularly concerned about proposals under discussion by the authorities in some markets, which would require all tobacco products to be made available in the same plain packaging.”<sup>82</sup>

<sup>78</sup> Heyward M, Legal analysis of the agreements between the European Union, Member States, and multinational tobacco companies, New York, September 2010.

<sup>79</sup> [http://www.pmi.com/eng/tobacco\\_regulation/illicit\\_trade/pages/ec\\_agreement.aspx](http://www.pmi.com/eng/tobacco_regulation/illicit_trade/pages/ec_agreement.aspx)

<sup>80</sup> [http://www.jti.com/investors/media/press\\_releases/2007/pdf/20071214\\_01.pdf](http://www.jti.com/investors/media/press_releases/2007/pdf/20071214_01.pdf)

<sup>81</sup> [http://www.bat.com/group/sites/uk\\_3mnfen.nsf/vwPagesWebLive/DO87CF2K?opendocument&SKN=1](http://www.bat.com/group/sites/uk_3mnfen.nsf/vwPagesWebLive/DO87CF2K?opendocument&SKN=1)

<sup>82</sup> <http://www.imperial-tobacco.com/files/financial/reports/ar2010/files/2010AnnualReport.pdf>

In the press releases of the European Anti Fraud Office, the presence of the industry at the annual conferences of OLAF and the relationship between the industry and the EU is also highlighted: “The conference was attended by delegates from all 27 Member States, as well as law enforcement agents from Belarus, Croatia, Egypt, Montenegro, Russia, Turkey, and Ukraine. The World Customs Organization (WCO) and Europol also participated. The main focus of discussions this year was the new trends in smuggling and the challenges faced in different regions of Europe. There were also presentations from four of the world’s leading tobacco manufacturers, Philip Morris International (PMI), Japan Tobacco International (JTI), British American Tobacco (BAT) and Imperial Tobacco Limited (ITL), which have all concluded legally binding cooperation agreements with the Commission and the Member States.”<sup>83</sup>

Madeleine Heyward continues her legal analysis on the EU agreements: “Both the guidelines for implementation of article 5.3 and the guidelines for implementation of article 13 (which requires parties to implement a comprehensive ban on tobacco advertising, promotion and sponsorship, unless prevented from doing so by their constitutions or constitutional principles) also recommend regulation of ‘socially responsible’ practices of the tobacco industry – recognizing that parties should not support or participate in tobacco company ‘corporate social responsibility’ efforts, should make all branches of government and the public aware of their true purpose, and should prohibit public dissemination of information about such activities (except where strictly necessary). The use of the agreements as a form of ‘corporate social responsibility’ is a matter of particular concern in relation to the BAT and ITL Agreements, which the Commission has publicly stated were ‘initiated by’ the companies, and which do not settle formal legal disputes between the parties. The additional payments under these agreements can be understood as a form of tobacco sponsorship within the meaning of articles 1 and 13 of the FCTC – a contribution ‘with the aim, effect or likely effect of promoting a tobacco product or tobacco use either directly or indirectly.’” It remains an open question why BAT and ITL were willing to pay 200 and 300 millions of dollars, if there were no legal disputes to be settled.

The European Commission is not the only institution that collaborates with the tobacco industry to combat tobacco smuggling. In its 2011 renewed strategy, HM Revenue & Customs and the UK Border Agency, establish a new anti-illicit joint working group with the UK tobacco manufacturers and the Tobacco Manufacturers’ Association with the aim of proactively developing an improved and shared understanding of the illicit market in the UK.<sup>84</sup>

A further concern is the intelligence and data, which are only shared between government officials and the tobacco industry. These data can be used by the industry to misinform the public, the media and the policy makers. At one side the tobacco industry collaborates with the government to combat illicit trade, at the other side the industry attacks tobacco control measures of governments, such as generic packaging, on the

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<sup>83</sup> OLAF, Fight against counterfeit cigarettes, Press Release, Brussels, 13 October 2010.

<sup>84</sup> HM Revenue & Customs, Tackling Tobacco Smuggling – building on our success, London, April 2011.



basis that it will increase illicit trade. Without clear public scrutiny of these data, there cannot be a fair debate.

## Negotiations for an FCTC protocol on illicit tobacco trade

The Report "The Globalization of Crime: A Transnational Organized Crime Threat Assessment"<sup>85</sup> released in 2010 by the United Nations Office on Drugs and Crime (UNODC), looks at major trafficking flows of products such as drugs (cocaine and heroin), firearms, counterfeit products and stolen natural resources. The issues described in this report are similar to those dealt with in the illicit tobacco trade.

One of the main conclusions of the UNODC report was that, because TOC (Transnational Organized Crime) markets are global in scale, strategies to address them should also be global in nature. Anything else is likely to produce unwanted side effects, often in the most vulnerable countries.

The report outlines principles to combat transnational organized crime, which also apply to tackle the illicit tobacco trade: the global scope and multifaceted nature of the illicit tobacco trade requires a coordinated international response in order to fight illicit trade. Moreover, the legal trade should be better regulated. This international response is the negotiation on the FCTC illicit tobacco trade protocol.

More than 160 Parties to the FCTC gathered four times between 2008 and 2010 to negotiate an international treaty to combat the illicit trade in tobacco products. The illicit trade treaty is being negotiated as a supplementary treaty, or protocol, to the FCTC. Article 15 of the FCTC states that the Convention should deal with all forms of illicit trade in tobacco products, including smuggling, illicit manufacturing and counterfeiting.

The fifth meeting of the International Negotiating Body on the Protocol, INB5, starts in Geneva in March 2012 and the protocol is likely to be effective in 8 to 10 years time, taking into account the time for adoption (estimated 2012), the time for ratification by the parties (estimated 2014-15) and the time for implementation (estimated 2019-20).

Enforceable measures to control the supply chain and international cooperative measures including information sharing and cooperation in the investigation and prosecution of offences should be at the heart of the FCTC protocol on illicit tobacco trade. These measures should facilitate investigations into smuggling operations and make the industry liable for controlling the supply chain. The measures should include:

- licensing and regulating all participants in the tobacco business
- the control of Free Zones
- tracking and tracing systems from the points of manufacture to all points of sale, which would help identify the point of diversion from the legal to the illicit market
- traceable methods of payment at all stages in the supply and distribution chain
- strict scrutiny procedures in the selection of contractors during the supply process ensuring, for example, that they are all genuine companies with real addresses

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<sup>85</sup> <http://www.unodc.org/unodc/en/data-and-analysis/tocta-2010.html>

and that employees do not have any criminal record.

One of the core elements of the protocol is the tracking and tracing regime, on which a provisory agreement was reached during the negotiations in March 2010. The agreement on tracking and tracing is so far only provisory and will only become meaningful if an agreement is reached on all articles of the protocol. According to this agreement<sup>86</sup>, each Party shall require that unique, secure and non-removable identification markings, such as codes or stamps, are affixed to or form part of all unit packets, packages and any outside packaging of cigarettes within a period of five years and other tobacco products within a period of ten years of entry into force of the Protocol.

In addition, each Party shall require that the following information be available, either directly or accessible by means of a link<sup>87</sup>, to assist Parties in determining the origin of tobacco products, the point of diversion -where applicable-, and to monitor and control the movement of tobacco products and their legal status:

- (a) date and location of manufacture;
- (b) manufacturing facility;
- (c) machine used to manufacture tobacco products;
- (d) production shift or time of manufacture;
- (e) the name, invoice, order number and payment records of the first customer who is not affiliated with the manufacturer;
- (f) the intended market of retail sale;
- (g) product description;
- (h) any warehousing and shipping;
- (i) the identity of any known subsequent purchaser; and
- (j) the intended shipment route, the shipment date, shipment destination, point of departure and consignee.

## **The Tracking and Tracing regime**

Tracing means the re-creation by competent authorities or any other person acting on their behalf of the route or movement taken by tobacco products through their respective supply chains of manufacture, sale, distribution, storage, shipment, import or export, or any part thereof.

Tracking means systematic monitoring by competent authorities or any other person acting on their behalf of the route or movement taken by tobacco products through their respective supply chains of manufacture, sale, distribution, storage, shipment, import or export, or any part thereof. Thus tracing can be seen as a retrospective system and tracking as a prospective one.

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<sup>86</sup> FCTC, Conference of the Parties, Consolidated text incorporating discussions on the draft protocol to eliminate illicit trade in tobacco products, FCTC/COP/INB-IT/4/Conf.Paper NO.9, Geneva 21 March 2010.

<sup>87</sup> The link means that the data are not stored in the marking, but in databases around the world which store information which is linked with the marking. Authorised users can have access to the data by typing the unique identifier found on the package in order to launch a global search across all connected databases.

The main objective of a tracking and tracing regime is to facilitate investigations into tobacco smuggling only (i.e not for the other forms of illicit trade identified above) and to identify the point where tobacco products are diverted to an illicit market. According to the WHO Expert Group,<sup>88</sup> “an international tracking and tracing regime would help prevent, detect and eliminate the illicit trade of genuine tobacco products, making it more difficult for smugglers. Such systems would need to be implemented at an international level, rather than each entity developing its own domestic system, in order to ensure that tracking and tracing across borders could be facilitated. The approach is both proactive, in that tracking provides information and verification to law enforcement agencies, and reactive, in that tracing provides an opportunity to identify the participants in the illegal trade whenever an audit or a seizure is made. A tracking and tracing regime would allow for a detailed analysis of individual seizures of genuine tobacco products and an analysis of smuggling trends on larger scales. It will also provide an opportunity for the identification of the point of diversion of tobacco products to the illicit market.”

According to the report produced by IBM on behalf of the FCTC Secretariat, an effective national and international tracking and tracing regime for tobacco needs to fulfil the following requirements:<sup>89</sup>

- 1) A unique code on all tobacco products up to the smallest saleable unit. Human readability and characters that can be read by people who speak different languages. Security would require that there is no possibility for external stakeholders to decrypt the complete marking. The unique serial number must be randomized and the algorithm for randomization cannot be predictable;
- 2) A common international numbering standard to describe the main characteristics of the products (such as country of manufacture, product description, date of manufacture, intended market of retail etcetera);
- 3) Establishing parent-child relationships between different packaging units, which would allow, for instance, traceability of pallets without scanning all master cases, cartons and packs that are inside the pallet;
- 4) Recording of any changes in the parent-child relationship along the supply chain;
- 5) Recording of any shipping and receiving events along the supply chain;
- 6) Recording of relevant track and trace related data by supply chain partners;
- 7) Establishing query interfaces between the databases of the supply partners and the national/international authorities. The purpose is not to establish one central, global database, but rather a multitude of national and regional databases that should be interconnected in order to facilitate inquiries by competent authorities, which should in their turn introduce the unique number of a package to obtain info on the product, the manufacturer and the events along the supply chain.

It should be noted that parties have been less interested in tracking (the monitoring of packages around the world) than in tracing (the re-creation of the route of the seized

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<sup>88</sup> ‘Elaboration of a template for a protocol on illicit trade in tobacco products’ (World Health Organization, Conference of the Parties to the WHO Framework Convention on Tobacco Control, second session, provisional agenda item 5.4.1, A/FCTC/COP/2/9, 19 April 2007) 8.

<sup>89</sup> FCTC, Analysis of the available technology for unique markings in view of the global track-and trace regime proposed in the negotiating text for a protocol to eliminate illicit trade in tobacco products, FCTC/COP/INB-IT/4/INF.DOC./1.

cigarettes). The agreement on a tracking and tracing regime is thus so far only a tracing regime, as the investment for a tracking regime would imply a global, centrally managed database, which some argue such a system is too expensive and might raise data protection concerns, especially if it contains sensitive commercial information and personal data.<sup>90</sup>

The first element of a tracking and tracing regime is thus the marking of the packages.

## **The marking and coding technologies.**

Coding on consumer products, an essential part of any tracking and tracing system, has been used for verification, identification, monitoring, stock management, tracking and tracing and improved collection of tax revenue. This section will describe the various coding technologies already in use, identifying which are already used on tobacco products.

**Barcodes:** The first barcodes stored information in patterns of parallel lines of varying width and spacing from each other. The newer two-dimensional 'matrix code', as it is called, contains more data and stores information in patterns of dots, circles and images.

Most consumer goods bear barcodes that are used mainly for sales and inventory tracking; they refer to a product's brand category and the country where the barcode was issued. Barcodes can also be used for tracking a product's movement. Parcel delivery services, such as Federal Express and UPS, use such systems and pride themselves on their ability to locate a package at all times during the delivery.<sup>91</sup> When a company packs a box with a specific item, a Unique Identifying Number (UID) can be assigned. Companies that ship packages internationally, for instance, usually scan the UID of the packages at every stage of transport. That information is sent to a data server that allows the company and client to learn a package's precise location at any time during its shipping.

The European Union reached agreements in 2004, 2007 and 2010, respectively, with PMI, JTI, BAT and ITL about controlling illicit trade in cigarettes. As part of the agreements, the companies are marking master cases (containing 10,000 cigarettes each) produced globally with a unique barcode that can be read by either a human or a computer. The coded information includes the brand category, the product variant (a design of a cigarette package for a certain market), production date, place of production, the machinery and the hour, minute and second of manufacturing. This information can be obtained immediately by scanning the barcode or entering its unique number into a database.

To track cartons (containing 200 cigarettes), PMI, as part of its agreement, is introducing a 2D matrix code on the teartape (the small plastic tape used to tear open the cellophane wrapping). The matrix code is unique for each carton. It is scanned at the

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<sup>90</sup> The World Customs Organization database CEN does not include named person data either.

<sup>91</sup> Non-smokers' Right Association, Smoking and health Action Foundation, Tobacco smuggling and contraband: a deadly threat, Ontario, 2007.

production line and entered into the database, which links each carton with a specific master case.

The barcodes have advantages. They are cheap to make, are internationally standardized and can be read by scanning machines or readers that do not need a specific computer program to transmit the data. The disadvantage is that the scanning of the codes is labour-intensive. In addition, bar codes are visible and easy to counterfeit or to cut.

**RFID:** Radio-frequency identification (RFID) systems are made up of readers and “smart tags”- microchips attached to antennas. When it nears a reader, the tag broadcasts information stored in its chip. Readers can scan smart tags automatically when pallets with products bearing the tags pass along conveyor belts and through loading bays.<sup>92</sup>

RFID systems are easier to manage than barcodes and do not require manual scanning. The RFID technology is, however, relatively costly: RFID tags cost US 15<sup>93</sup> to 20<sup>94</sup> cents a tag, and readers cost between US \$100 to \$1000.<sup>95</sup> Additional concerns are the security of the system<sup>96</sup> and protecting privacy if the microchip tags remain on packs once they have been purchased, potentially identifying the location of individual consumers, and in some cases their identity.<sup>97</sup> The use of RFID is already widespread in many areas such as passports, transportation, ticketing, counterfeiting, baggage-tracking in airports and livestock-tagging. Lowering its cost and updating the technology will create new opportunities. If cost-effective tags enter the market, possibilities for RFID would expand quickly. Research firms predict that 585 billion tags would be delivered in 2016, or 450 times the quantity of 2006.<sup>98</sup>

**Invisible ink:** In California, Brazil, Turkey, and Canada a new generation of high-tech digital tax stamps are in use.<sup>99</sup> This kind of stamp uses invisible ink and features a unique, covert code with data for each pack (containing 20 cigarettes). The tax stamps have mainly been used to verify whether products are authentic or counterfeit. In addition, the stamps can be encrypted with extensive information that is uploaded to a Central Data System in order to monitor and control the manufacturing and distribution at national level (see further for more info on the Brazilian system). Costs of introducing this system have been assessed in Brazil at 1.7 US cents per cigarette pack.

**Physical fingerprints:** One new solution advanced to fight global counterfeiting relies on a product’s microscopic structure and is called the 'physical fingerprint'. In the New Scientist, this new technique was explained in this way: “On the microscopic scale, paper is made up of tiny fibres in random orientations, which is unique in its structure. On a

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<sup>92</sup> The best thing since the bar-code, *The Economist*, February 6, 2003.

<sup>93</sup> OCDE, [Radio-Frequency Identification \(RFID\): A Focus on Information Security and Privacy](#), Paris, 2008.

<sup>94</sup> Pagnamenta, R., Cigarettes are microchipped to beat fraud, *The Times*, 8 October 2007.

<sup>95</sup> OCDE, [Radio-Frequency Identification \(RFID\): A Focus on Information Security and Privacy](#), Paris, 2008.

<sup>96</sup> Boggan, S., Cracked it, *The Guardian*, 17 November 2006.

<sup>97</sup> OCDE, [Radio-Frequency Identification \(RFID\): A Focus on Information Security and Privacy](#), Paris, 2008.

<sup>98</sup> IDTechEx (2006a), RFID Market \$2.71Bn in 2006 to \$12.35Bn in 2010. RFID Forecasts 2006 to 2016: The latest research from IDTechEx, IDTechEx, [www.idtechex.com/products/en/articles/00000409.asp](http://www.idtechex.com/products/en/articles/00000409.asp).

<sup>99</sup> Lambert, S, Federal government hires Swiss-based firm to help fight counterfeit tobacco, *The Canadian Press*, January 9 2008.

mass production line, each product is scanned and its unique laser fingerprint is recorded on a protected database. When someone wants to check if a product is genuine, he simply scans the fingerprint region, and the database tells you if you have a match.”<sup>100</sup> This technique could be used for mass consumer products, but its cost might explain why it is not used more commonly for identification and tracking.

**Code Verification System** makes use of a unique encrypted 12-character number to identify and authenticate a pack of cigarettes.<sup>101</sup> The number, linked with a digital signature, can be read by a human or by a computer. By introducing the number in the data base or scanning the code, a code verifying computer programme will determine whether the code is authentic or not.

The CVS system is already used by PMI in some markets (see later) and for checking authenticity of cigar boxes. The system relies on a special code that is placed on a cigar box before it is sealed and on a paper ring put around each cigar before it is wrapped in cellophane. A cigar smoker taps the code into his mobile phone and gets back a text that verifies authenticity.<sup>102</sup>

CVS has a very low cost and is easy to administer. However, credibility is low, when a company that makes the products also administers its verification. An independent entity, without an interest in the outcome, should have responsibility for verification. In addition,

Tracking and tracing is more than the markings on the packs. It implies reading or scanning the codes, linking the codes between packs, cartons, master cases and pallets, uploading the information to a database, recording of any shipping and receiving events along the supply chain and interconnecting the different databases. In the tobacco field, there is no global and comprehensive tracking and tracing regime. However, Partial Tracking & Tracing systems, for instance applied in Brazil and the system used by PMI, do exist. These partial systems will be described briefly below.

## **Marking solutions under the EU-PMI agreement**

On 9 July 2004, the European Commission, together with 10 Member States, concluded a 12-year agreement with PMI, covering the entire European Community. It includes a system to combat future cigarette smuggling and counterfeiting and ends all litigation among the parties in this area. By 2009, all 27 EU Member States had signed the EU-PMI agreement. The EU-PMI agreement obliges PMI to put in place a tracking and tracing system.<sup>103</sup> PMI marks all packs or cartons with embossed codes or other markings containing information on:

- (a) date of manufacture of the product,
- (b) manufacturing facility,
- (c) machine of manufacture, and

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<sup>100</sup> Fisher, R., Foolproof fingerprints: the counterfeit killers, New Scientist, 23 April 2007.

<sup>101</sup> Bacheldor B, Philip Morris Intl. seeks to make serialized bar codes work with EPC network, RFID Journal, October 8, 2007. <http://www.rfidjournal.com/article/articleprint/3668/-1/1/>

<sup>102</sup> Overstreet R, Texting authenticity, Tobacco Journal International, nr6/2007, p.70.

<sup>103</sup> The EU-PMI provisions on tracking and tracing are available on line at [http://ec.europa.eu/anti\\_fraud/budget/D.pdf](http://ec.europa.eu/anti_fraud/budget/D.pdf)

(d) shift during which the product was manufactured.

In addition, PMI marks master cases with unique, machine-scannable barcode labels before selling them to a first purchaser. The labels also contain a human-readable translation (i.e., spelled out in letters and numbers). These labels permit linking the code with product information on the packs and also with information in a database, such as:

- (1) First purchaser name and order number,
- (2) Shipment date,
- (3) Destination of shipment,
- (4) Point of departure from the final factory or warehouse,
- (5) Consignee to whom the product was shipped, and
- (6) Intended market of retail sale.

This information can be linked to the sales price and the invoice of shipment to the first purchaser. The database is managed by PMI, with access for authorized members of relevant agencies in the Member States or the European Commission. The database is searchable by customer order or master case barcode number. It is available 24 hours a day. Authorized persons send an email to the database with the master case barcode number and get an automatic reply.

PMI produces around 770 billion cigarettes globally each year. During the first three years of the agreement, PMI has labelled 200 million master cases, containing a total of 2000 billion cigarettes, with unique barcodes that can be scanned by machines before the cigarettes are sold to the first buyers in the distribution chain.<sup>104</sup> A problem with the unique labelling of the master cases is that smugglers are aware of the new PMI coding system and might repack the cigarettes in new master cases or cut the codes, which are visible, from them.

Under its agreement with the EU, PMI must continue research and development in technology for improving coding on cartons and packs. PMI has gradually introduced tracking of cartons in smuggling sensitive markets, such as Russia, Ukraine, Romania and Lithuania; a data matrix code on the tear-tape is scanned, registered in the database and links each carton to a specific master case. However, no results from this system have yet been made public.

PMI is also applying unique and human-readable codes on individual packs in some markets, such as Belgium, Colombia, the Dominican Republic, Ecuador, France, Germany, Guatemala, Germany, Italy, Lebanon, Mexico, Netherlands, Panama, Peru, Portugal, San Marino, Spain and Sweden based on the Code Verification System<sup>105</sup>. CVS is an encrypted, serialized 12-character number used to identify and authenticate each pack of cigarettes.<sup>106</sup> The CVS code, called 'codentify', is linked with the place of manufacturing, the machinery, date and time of production and brand information, but not linked to the unique coding of the cartons or master cases and are not part of the recorded data for the tracking and tracing regime. The main purpose is to identify whether the product is authentic or not. A possible PMI CVS code has the following

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<sup>104</sup> The information in this section has been collected during a visit, organised by the European Anti Fraud Office (OLAF) on 8 July 2008 in Neufchatel, Switzerland.

<sup>105</sup> Hill M, Digital Tax Verification (DTV) Codentify, the industry Standard, October 2010.

<sup>106</sup> Chanez P, Fradet E, Tracking & Security at Philip Morris International, Chicago, October 2007, power point presentation available at <http://autoid.mit.edu/ConvocationFiles/PMI%20-%20EPC%20symposium%20presentation.ppt>



form: TG9 XJ3 DRD GOK. Since the codes are human-readable, they are easy to counterfeit. However, checking the database would easily permit a person to verify whether a code is authentic.

Codentify has been developed, owned and patented by PMI, but in a recent and highly unusual move PMI decided to licence it for free to BAT, JTI and ITL. In fact PMI, JTI, BAT and ITL signed an agreement<sup>107</sup> in 2010 (which we have a copy of) to apply codentify as the marking system for their cigarette packs.<sup>108</sup> The agreement includes a shared budget for further development of codentify technology and joint advocacy..

The four companies are the big players in the international cigarette market and sell 71% of global cigarette sales (outside China) in 2010.<sup>109</sup> Jeannie Cameron, BAT's international advocacy and engagement manager anti-illicit trade, was quoted in Tobacco Journal International: "It's not every day that the BAT board decides to take on it's major competitor scheme (..) That decision was taken in the context of it being the only available technology to do what we needed to do. It works and it's good and that why we decided to go down that route." <sup>110</sup> The 2010 agreement between the big four goes further and contains a common strategy to convince governments to replace "outdated " paper tax stamps by digital tax verification based on the codentify technology. The agreement states "The Parties (PMI, JTI, ITL, BAT) agree that the main objective of the Industry Working Group is to promote and implement secure, state-of-the art, cost effective Digital Tax Verification solutions... The adoption of a single industry standard, based on codentify, is a key element of this strategy." <sup>111</sup> The strategy paper is also a vigorous attack on the high-tech tax stamp systems put in place in California, Brazil, Canada and Turkey, managed by sicpa, which they consider as too expensive. Of particular concern is the way the industry clearly intends to promote its own system over any potentially competing system that would be out of their direct control.

### **Commentary on the PMI markings**

Tracking and tracing provisions of the EU-PMI agreement are global, applying to all PMI factories around the world. The provisions are easy to manage and can provide useful information for investigators and law enforcement officials. It is the start of a complete tracking regime through the whole distribution chain; the actual system includes the first purchaser in 124 markets, and in some markets the second and third purchaser.<sup>112</sup>

The tracing of cartons is gradually being put into place. Tracing at carton and pack level is essential, as markings on master cases can easily be removed. So far, codes on the individual packs are not linked to the unique coding of the cartons or master cases.

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<sup>107</sup> BAT, ITG, PMI, JTI, Memo announcement of Industry Working Group Agreement on Digital Tax Verification, November 2010

<sup>108</sup> Helk A, Closing the tax gap: urgent action required, Tobacco Journal International, Nr4, 2010, 123-5.

<sup>109</sup> Doira G, Marché mondial du tabac, Revue des tabacs, Juillet/ Août 2011, 6-13.

<sup>110</sup> Helk A, Closing the tax gap: urgent action required, Tobacco Journal International, Nr4, 2010, 123-5.

<sup>111</sup> Hill M, Digital Tax Verification (DTV) Codentify, the industry Standard, October 2010.

<sup>112</sup> FCTC, Analysis of the available technology for unique markings in view of the global track-and trace regime proposed in the negotiating text for a protocol to eliminate illicit trade in tobacco products, FCTC/COP/INB-IT/4/INF.DOC./1.

Linking codes from individual packs with cartons and master cases is essential, and feasible with the existing technology. Not linking codes at pack level with the codes at carton and master case level is one of the weak points of the PMI system, according to the IBM report, commissioned by the FCTC secretariat.<sup>113</sup> Codentify codes on individual packs are accepted as the standard by the four major tobacco companies, yet according to our knowledge, none of the companies link the pack codes with the codes on the cartons or master cases. While this linking is feasible, there seems little interest of the major tobacco companies to do so. In the comments by PMI on the revised chairperson's text for a protocol on illicit trade in tobacco products, PMI said: "In our experience, cigarettes are not diverted in bulk at the pack level, but rather at the Master Case and carton level. Pack tracking & tracing would therefore be an unnecessary requirement, which would create a disproportionate burden on the supply chain."<sup>114</sup> The claim by PMI, that cigarettes are not diverted at pack level, was not documented. Also, the claim is in contradiction with the practise of 'ant smuggling', which refers to the organized and frequent crossing of borders by a large number of individuals with relatively small amounts of low taxed or untaxed tobacco products. Ant smuggling, for instance, is very common between the Ukraine and Poland.<sup>115</sup> Moreover, the high level of profitability of these companies – their profits can be as high as 90 US cents a pack<sup>116</sup>, - suggests any additional costs could be met.

In addition, independent and regular audits are necessary to guarantee the validity of the system. The IBM report states it as following: "The serial number must be randomized and the algorithm for randomization must not be predictable. It is the responsibility of the manufacturer to define the algorithm for randomization, but national authorities need to set up the legal prerequisites. In order to check if a manufacturer applies randomization, national authorities should frequently audit the processes being used by the manufacturer."<sup>117</sup>

According to our knowledge, no regular audits happen in the case of the PMI system.

The recent agreement and the close cooperation between the four major cigarette companies to replace tax stamps by digital tax verification based on the codentify technology, is both worrying and problematic, as tax verification should remain an exclusive competence of governments, and not of tobacco companies. In Lithuania, PMI has recently proposed replacing tax stamps with the "cheaper" codentify system. Fortunately, Lithuanian enforcement officials were not eager to accept this proposal.

An additional problem with codentify is its use in advertising campaigns. Codentify is linked to a PMI phone number, which allows smokers to get in direct contact with PMI. Smokers can call the number in order to verify whether the codes on the packs are authentic or not. The phone number, however, sometimes finds its way into advertising

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<sup>113</sup> Ibid

<sup>114</sup> PMI, Revised Chairperson's text for a protocol on illicit trade in tobacco products, Comments by Philip Morris International, 2009.

<sup>115</sup> Bogdan Bednarski. Presentation at the summit of tobacco control leaders from Central and Eastern Europe and the Former Soviet Union countries. Warsaw, 23 April 2008.

<sup>116</sup> Lorillard investor day, Murray Kessler, Chairman, President, CEO, May 4 2011, slide 121.

[http://media.corporate-ir.net/media\\_files/irol/13/134955/Lorillard\\_investorday.pdf](http://media.corporate-ir.net/media_files/irol/13/134955/Lorillard_investorday.pdf)

<sup>117</sup> FCTC, Analysis of the available technology for unique markings in view of the global track-and trace regime proposed in the negotiating text for a protocol to eliminate illicit trade in tobacco products, FCTC/COP/INB-IT/4/INF.DOC./1.

campaigns. In Portugal for instance, a PMI poster campaign was organised at the point of sales in collaboration with the Ministry of Finance to warn about the health dangers of counterfeit cigarettes.<sup>118</sup> This campaign can be considered as a form of 'corporate social responsibility', in conflict with the FCTC (see earlier).

## **The control and monitoring system in Brazil**

To tackle illicit domestic manufacturing, Brazil mandated licensing of its manufacturers. Non-compliance with the law or failure to pay taxes could lead to withdrawal of a license and closure of a factory. In addition, an integrated control and monitoring system for cigarette production became obligatory and has been operating since December 2007. The Ministry of Finance implemented installation of automatic cigarette production counters at each production line. It mandated the launching of a digital tax stamp system, with capabilities for identifying each individual pack. This kind of stamp uses invisible ink and features a unique, covert code with data for each pack (containing 20 cigarettes).

The purpose of the control and monitoring system was to ensure that all due taxes were collected on cigarettes produced in Brazil. In addition, under the new system it is possible to quickly distinguish genuine from counterfeit cigarettes and to verify the authenticity of the tax stamps applied on the packs by manufacturers. The automatic production counters in combination with the high-tech tax stamps also allows the government to establish exactly how many cigarettes Brazilian manufacturers produce.

The high-tech tax stamps are produced in the Brazilian Mint. Each stamp gets a unique code for each cigarette pack. There are four main tax categories for cigarettes, and the stamp for each tax category has a different colour. After these stamps are produced, they are transferred to one of the manufacturing sites under strict security. Then the tax stamps are applied to the packs, and a camera at the production line activates codes on the packs. Activation of the code is possible on machines operating at a speed of 700 packs per minute. The codes contain product data for each cigarette pack, which is uploaded to a Data Manager Server under the control of the Ministry of Finance. The stamps are encrypted with the following information:

- Name of the manufacturing site
- The date the stamp was validated
- The tax category of the stamp

If a manufacturer uses tax stamps of which codes are not detected, are not allocated to that specific manufacturer, or do not match the fiscal category of the pack, the Data Manager Server will issue an alert to the Secretariat of Federal revenues to start an investigation.<sup>119</sup> In this system, inspectors, retailers and distributors can easily detect counterfeit cigarettes by using specific hand-held scanners. Law enforcement field

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<sup>118</sup> <http://www.pmi.com/marketpages/FinancialDocuments/Leaflet.pdf>

<sup>119</sup> Fisch, M., The illegal cigarette market in Brazil. A case study. A non-paper commissioned by the WHO TFI for the technical briefing during the first session of COP of the WHO-FCTC, 6-17 February 2006, Geneva, Switzerland. An overview of the legislation in Brazil can be found on the website of the Ministry of Finance: [http://www.receita.fazenda.gov.br/Novidades/nov\\_legis.htm](http://www.receita.fazenda.gov.br/Novidades/nov_legis.htm)

inspectors can have online access to package-related data available on the Data Manager Server by scanning the code.

The law stipulates that tobacco manufacturers must pay the costs of introducing the digital tax-stamp system. Those costs have been assessed at 1.7 US cent per cigarette pack.<sup>120</sup> Costs to the government are minimal, as are the costs borne by tobacco manufacturers.

The Brazilian control and monitoring system was updated and improved in 2011. A federal law (nr 12402) was published on 3rd May 2011 requiring that every pack of cigarettes produced in Brazil for export has to be marked with a unique identification code at the production lines to determine the origin of the products and to control their movement.<sup>121</sup> The marking regime applied to cigarettes for export is a visible two-dimensional matrix code (instead of an invisible code for the domestic products) on the packs and the cartons. In addition, enforcement officials will be able to see a numeric code on the packs with a reader. At the end of the numeric code the letters BR will be added, indicating that the cigarettes were produced in Brazil. Through a link with internet, enforcement officials will have access to information (such as date and place of manufacturing, country of destination etc) to trace the pack by introducing the numeric code of the pack. The markings for export are already introduced in the BAT factories and will be introduced in the PMI factories in September 2011.

The law also establishes that the manufacturer will be responsible for all the taxes that haven't been paid in case they didn't show the documentation regarding the importation in the country of destination after 120 days of the export or if these products come back to Brazil as contraband.

### **Commentary on the Brazilian system**

The Brazilian system was in put in place in 2007 to tackle a domestic problem of illicit manufacturing and was successful in this respect. Its objective was not to control cigarette smuggling, mainly originating from its neighbour Paraguay. The markings could, however, be the start of tracking and tracing system, and have been updated in 2011 in order to tackle the products which are exported.

Installation of cigarette production counters, the high-tech tax-stamp system and licensing of the manufacturers were primarily developed to address the 15% of the illicit domestic trade generated by Brazil's small national manufacturers. According to the Brazilian Ministry of Finance, the implementation of the program led to the closure of several companies, which did not comply with the licensing rules and to US\$ 100 million less tax

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<sup>120</sup> Personal communication Marcello Fish, 4<sup>th</sup> December 2007.

<sup>121</sup> Normative Instruction 1155, 13 May 2011

<http://www.receita.fazenda.gov.br/Legislacao/Ins/2011/in11552011.htm>

Normative Instruction 1162, 3 June 2011 <http://www.receita.fazenda.gov.br/Legislacao/Ins/2011/in11622011.htm>

Normative Instruction 1163, June 2011

<http://www.receita.fazenda.gov.br/Legislacao/Ins/2011/in11632011.htm>

evasion at the domestic market in 2008.<sup>122</sup> The advantage of the Brazilian system is the greater government involvement as the system is fully managed under the control of the Ministry of Finance and is thus independent of industry interests.

Brazil applies the invisible ink technique for the markings for domestic products and visible and unique markings for the exported products since May 2011. The advantage of this invisible ink technique is security: the ink is invisible and difficult to counterfeit. In California, where a similar system is in place, the tax stamps have been copied, but tax officials say that the codes encrypted within the stamp have never been broken. The disadvantage is that the system is difficult to apply at international level, because the codes are not readable outside Brazil, unless Brazilian authorities supply the scanners. The introduction of visible data matrix codes on the cigarette packs and cartons for export in 2011 is an enormous improvement of the control and monitoring system in Brazil.

## Conclusions and Recommendations

- ❖ While in the nineties and the beginning of the millennium, the transnational tobacco companies were intimately involved in the cigarette smuggling in Europe, since 2004 they have become partners with the European Union and its Member States in the fight against illicit tobacco trade as part of four legally binding and enforceable agreements.
- ❖ While the lawsuits and the subsequent agreements were successful in reducing some forms of smuggling in the EU, the close relationship between the industry and the EU has come under severe attack as being in conflict with the FCTC and its guidelines, in particular in relation to article 5.3 (the article on the protection of public health policies with respect to tobacco control from commercial and other vested interests of the tobacco industry).
- ❖ The tobacco industry and enforcement officials are being presented as partners in the fight against illicit trade, while the same industry uses data on illicit trade that are not publicly available and have not been subject public scrutiny, to attack tobacco control legislation developed and supported by health officials.
- ❖ Research on illicit trade has been conducted by KPMG as a part of the agreements between the EU and PMI. According to KPMG, total cigarette consumption in the EU was 685 billion units and contraband trade accounted for 8.9% of total consumption in 2009. The content of the KPMG report was only made public in August 2011 following a formal request based on EU legislation regarding public access to documents (regulation No. 1049/2001 of 30 May 2001).
- ❖ Transparent and public data on illicit tobacco trade are missing in most European countries.
- ❖ Preliminary data from a survey, undertaken in 18 countries as part of the PPACTE project in 2010, indicate that the illicit cigarette trade is highest in Latvia, Romania, Bulgaria and Poland, countries with low prices, but close to Russia and the Ukraine, important suppliers of illicit cigarettes in Europe. Hence, in Europe, supply side factors (such as the supply from manufacturers in Russia and the Ukraine) appear to play a key role in determining levels of illicit tobacco

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<sup>122</sup> Fisch M, Medidas a considerar para limitar el comercio ilícito de cigarrillos. La experiencia de Brasil (Possible measures to limit the illicit cigarette trade. the Brazilian experience), Soa Paulo, 2009.

trade. This finding contradicts industry arguments on this topic and highlights the need for data on smuggling to be made public.

- There is a need for more transparency on the contacts between enforcement officials and the tobacco industry, information on the results of the agreements and for independent audits that verify the validity of the tracking and tracing system put in place by the tobacco industry.
  - There is also a need for independent data, open to public scrutiny, on the size and nature of illicit tobacco in each European country. This data must include the breakdown of seized products by manufacturer, by country where products were seized, and by brand and must also indicate how the any products were determined as “counterfeit” – whether by the tobacco company or by independent scientific verification.
  - Such data are a pre-requisite for efforts to successfully tackle the illicit tobacco trade.
- ❖ The global scope and multifaceted nature of the illicit tobacco trade make a coordinated international response and better regulation of the legal trade essential elements in efforts to tackle illicit tobacco. This international response is the negotiation of the FCTC illicit tobacco trade protocol.
- ❖ One of the core measures of the protocol is the tracking and tracing regime, on which a provisory agreement was reached during the negotiations in March 2010. The agreement on tracking and tracing is so far only provisory and will become meaningful if an agreement is reached on all articles of the protocol and if the protocol is adopted and ratified by the parties. According to this agreement, each party shall require that unique, secure and non-removable identification markings form part of all cigarette packages within a period of five years.
- **A global tracking and tracing system should at least comply with the following requirements:**
    - **A unique code on the packages of all tobacco products (packs, cartons, master cases etcetera);**
    - **A link between the codes by establishing parent-child relationships between different packaging units, which would allow, for instance, traceability of master cases without having to separately scan all cartons and packs that are inside the master case;**
    - **A secure system with no possibility for external stakeholders to decrypt the complete marking;**
    - **Be administered independently of industry interests. At a minimum, independent and regular audits must guarantee the validity of the system;**
    - **Recording of any shipping and receiving event along the supply chain;**
    - **A link between the databases of the supply partners and the national/international authorities, which would be accessible for authorised enforcement officials around the world.**
  - **This should be combined with better regulation of the legal tobacco trade.**
- ❖ A recent pan-industry agreement indicates that the major tobacco companies are

now collaborating in promoting PMI's in-house marking system on cigarette packs. This agreement (which we have seen a copy of) suggests the industry fears the uptake of alternative systems. This and the willingness of these companies to collaborate on this issue raises concerns that such a system would not be in the public interests.