Illicit Trade:

Converging Criminal Networks

OECD

PRELIMINARY VERSION

Illicit Trade: Converging Criminal Networks

This is a preliminary version.

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

This is a preliminary version.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Photo credits @Shutterstock

© OECD 2015

Preface

The OECD Task Force on Charting Illicit Trade (TF-CIT) was established to advance the resilience of our economies and societies to the odious global threat: illicit trade perpetrated by criminal entrepreneurs and transnational illicit networks that enables the global illegal economy to thrive in the dark side of globalization. In too many places around the world, criminals have built their illicit empires on dirty money and laundered funds to infiltrate and corrupt government institutions. In this shadowy, illegal economy traffickers and narcotics kingpins act as CEOs and venture capitalists while they build their empires of destruction, jeopardizing public health, emaciating communities' human capital, eroding our collective security, and destabilizing fragile governments. The breadth and scale of these illicit markets are vast; various international organizations estimate the scale of illicit trade is thriving with hundreds of billions of dollars in illicit commerce that includes trafficking in narcotics, persons, endangered wildlife, illegally-logged timber, counterfeit consumer goods and medications, hazardous and toxic waste, stolen antiquities and art, illicitly-traded cigarettes, and other illicitly-traded goods and commodities.

The OECD TF-CIT focuses on evidence-based research and advanced analytics to assist policy-makers map and understand the market vulnerabilities exploited and created by illicit trade. Mapping the harms and impacts of illicit trade and the licit-illicit complex system will help us pinpoint large-scale disruptions to illicit markets and identify tools to reinforce the most vulnerable points of entry to the illegal economy. Quantitative metrics better inform policy makers, allowing them to drive criminal entrepreneurs out of business, reduce the incentives for communities to resort to illegal commercial activity, mitigate opportunities for organized crime to taint our financial system with their ill-gotten gains, and help governments sustain legitimate markets so that businesses that respect regulations can thrive. Pragmatic mapping tools will also be useful for policy-makers and law enforcement to not only engage in upstream and downstream coordinated mitigation and disruptions of the illicit trade, but also address gaps in surveillance and monitoring systems to develop more effective early detection and warning systems of the new harms and risks of illicit trade to the formal economy.

The importance and timeliness of this OECD initiative reflects the growing threat posed by transnational organized crime and illicit networks, which has expanded in size, scope, and menace, destabilizing globalized economies and markets alike and created insecurity in communities around the world. As criminal entrepreneurs and transnational illicit networks hijack the technological, financial, and communications advances of globalization for illicit gains, they continue to present new harms to the governance and security of all nations. The proliferation of these threatening networks and the convergence of their illicit activities threaten not only the interdependent commercial, transportation, and transactional systems that facilitate free trade and the movement of

people throughout the global economy, but are jeopardizing governance structures, economic development, security, and supply chain integrity.

To mitigate this global risk, public and private sector decision makers need a firmer grasp on the magnitude and nature of its impacts on economic activities, and a clearer understanding of the conditions that enable it. We must continue to strengthen cross-border cooperation to tackle illicit trade and increasingly inter-connected global challenges, and help communities to fully seize the benefits of open trade to achieve great sustainable development and security. Of course, such cooperation should not impede the rules of the global trading system, but rather be consistent with them and work to the advantage of legitimate businesses engaging in international trade. To this end, the OECD TF-CIT can provide a key advisory function in the design of successful policies and processes to increase economic and societal resilience to this threat.

The work of the TF-CIT is only beginning. The next steps are to focus attention on countering the dark side of globalisation through co-ordinated efforts to improve enforcement policies. The work will explore how enhanced information sharing can strengthen the risk analysis conducted by customs and police, which is so crucial to focusing their limited resources on the areas where criminal trade fraud and is most likely to occur. Ultimately, the international public-private partnerships and regional dialogues that accompany the TF-CIT efforts will help inform policy communities around the world about the harms and impacts of illicit trade. These outreach efforts should provide fertile ground for public and private sector decision makers better to reinforce their prevention and mitigation efforts in strategic markets, and thereby fulfil the promise of better policies for better lives, and nurturing legitimate growth economies, investment frontiers, and sustainable futures for all communities.

David Luna

Chair of the Task Force on Charting Illicit Trade

ACKNOWLEDGEMENTS

The report was prepared under the Task Force on Charting Illicit Trade of the High Level Risk Forum of the OECD's Public Governance and Territorial Development Directorate, led by Rolf Alter.

The report was coordinated by Jack Radisch, Senior Project Manager, under the guidance of Stephane Jacobzone, Deputy Head of Division, Reform of the Public Sector.

The OECD secretariat wishes to thank the authors for their contribution to furthering the improved understanding of illicit trade. The chapters were drafted by: Chapter 1- Jack Radisch, Chapter 2- Kristiina Kangaspunta and Andy Guth, Chapter 3- AJ Clarke and Adriana Babic, Chapter 4- Professor Kristina Lybecker, Chapter 5- Colin Clarke, Chapter 6- Dr. Sharon Melzer and Chris Martin, Chapter 7- Paul Skehan and Lance Hastings, and Chapter 8- Fred Lord, Stuart Page, Christopher Celestino and Salvatore Grasso. The executive summary was prepared by Andrea Uhrhammer. Sabrina Aschemann and Melissa Li assisted with coordination and desk research, as well as the following interns Michael Joyce, Alexander Moon, Andrew Pfender and Matej Sodin. Editorial support given by Lynda Hawe, Kate Lancaster and Liz Zachary is gratefully acknowledged.

The report draws on the expertise of the experts and members of the OECD Task Force on Charting Illicit Trade (TF-CIT). The OECD Secretariat would like to thank the TF-CIT Chair, David Luna, for his leadership as well as his colleagues in the United States Department of State, Office of Anti- Crimes Programmes: Kristin Larson, Jessica Graham and Sharon Melzer for their commitment to the initiative.

The OECD secretariat would also like to thank the academics, NGO and experts who provided invaluable knowledge and insights: Kelvin Allie, Alain Bauer, Francesco Calderoni, Jeannie Cameron, Tom Cardamone, Chris Corpora, Pierre Delval, Michael Dobbs-Higginson, Luca Giommoni, Karl Lallerstedt, Fred Lord, Vanessa Neumann, Stuart Page, Gretchen Peters, Justin Picard, D'Arcy Quinn, Xavier Raufer, Michele Riccardi, Ernesto Savonna, Louise Shelley, Scott "LB" Williams.

A special expression of appreciation is here given to members of the Task Force who represented different intergovernmental organisations: EMCDDA- Nicola Singleton; Europol- Tamara Schotte; ILO- Mickaëlle De Cock; Interpol- Steffano Betti, Francoise Dorcier, David Higgins, Unomuinjo Sibolile; IOM- Nathalie Morandini; OHIM- Nathan Wajsman; OSCE- Maria Grazia Giammarinaro; UNICRI- Marco Musumeci; UNODC- Louise Bosetti and Kristiina Kangaspunta; WCO- Maria Polner, Norbert Steilen, Leigh Winchell.

The Task force benefitted from the strong engagement of the OECD Business and Industry Advisory Council, and from private sector firms and business associations that collect data on illicit trade: Louis Bonnier; Gérard Boulanger, Robin Cartwright, Trine Dancygier, Bill Dobson, Donato Del Vecchio, Barbara Delli Carpini, Myriam Diallo, Stuart Eke, Aladag Goekhan, Jeff Hardy, Valentina Harti, Lance Hastings, Ashley How,

Pramod Krishna, Iain MacDonald, Dr. Marjana Martinic, Ignacio Sanchez Recarte, Didier Ridoret, Meena Sayal, Dr. Anna Sheveland, Katie Silk, Paul Skehan, Christian Swan, James Stinson, Laurent Venetz, Margot Vez Stuart, Zeeger Vink, Derek Walmsley, Gary Wade, Helen Young.

Table of Contents

Executive Summary **11**

Chapter 1 **Illicit trade: convergence of criminal networks** **15**

Introduction 16
Can illicit trade be measured? 17
An overview of key sectors 22
Understanding the broader challenges 28
Conclusion 30
References 33

Chapter 2 **Trafficking in persons: Trends and patterns** **35**

Introduction 35
Defining trafficking in persons 36
Flows and hubs of trafficking in persons 43
Consequences of human trafficking 45
Convergence with different forms of trafficking and transnational organised crime 46
Responses to trafficking in persons 47
Conclusion 48
Annex 2.1 49
References 53

Chapter 3 **Wildlife trafficking trends in sub-Saharan Africa** **55**

Introduction 55
Types, quantity and estimated market value of trafficked wildlife 56
Estimated market value of wildlife trafficking 60
Identification of wildlife trafficking routes 61
Conclusions 70

Chapter 4 **Illicit trade in counterfeit medicines** **77**

Introduction 77
Dimensions of the problem 79
Adverse consequences 88
Policy responses 96
Raising the cost of distributing counterfeit drugs 101
Links to transnational organised crime 101
Conclusions 104
Annex 4.1 106
Annex 4.2 107
References 113

Chapter 5 **A brief overview of illicit trade in tobacco products 123**

Introduction 124
Tobacco – the legal market 125
The illicit tobacco market 126
Measurement and data collection methodologies 130
Drivers and facilitators of the illicit trade in tobacco products 135
Free trade zones 137
Supply chain management 139
Tackling demand for illicit tobacco products 141
Links with organised crime and terrorist groups 143
Potential responses 147
National strategies to tackle illicit trade 151
Industry initiatives 154
Additional recommendations for anti-illicit trade initiatives 156
Conclusion 159
Annex 5.1: Methodology on measuring illicit trade in tobacco 163
References 169

Chapter 6 **The global illicit trade in illegal narcotics 177**

Introduction 177
Characteristics of the global illicit trade in illegal narcotics 178
Major known flows/hubs of illicit trade in narcotics 183
Consequences of illicit trade 190
Nexus with transnational organised crime 195
Policy responses 200
Conclusion 202
References 205

Chapter 7 **The size, impacts and drivers of illicit trade in alcohol 213**

Introduction 213
Illicit trade in alcohol – definitions 214
Illicit trade in alcohol – scope 216
Extent of illicit trade 217
Quantifying the broader impacts of illicit trafficking in alcohol 221
Effects on government revenues (structured by region and/or countries) 223
Effects on the formal economy 225
Nexus with transnational organised crime 226
Drivers of the trade in illicit alcohol 227
References 230
Annex 7.1: Illustrative legal frameworks for anti-counterfeiting 234
References 237

Chapter 8 **Sport manipulation as economic crime 239**

Introduction 239
Consequences of the illicit sports betting sector 244
Nexus with transnational organised crime 247
Responses 252
Conclusion: What policy should be advocated, and why? 257
References 260

Figures

Figure 1.1. Trend in volume of world trade - USD billion 20
Figure 1.2. Revenues of illicit trade (by % of total revenues) 22
Figure 1.3. Millions of people in forced labour 24
Figure 1.4. Pharmaceutical crime- incidents of counterfeiting, illegal diversion and theft 25
Figure 2.1. Forms of exploitation among all detected trafficking victims worldwide (2011) 39
Figure 2.2. Forms of exploitation among detected trafficking victims, by region (2010-2012 or more recent) 40
Figure 2.3. Gender and age profile of trafficking victims detected globally (2011) 41
Figure 2.4 Percentages of children and adults among the detected victims of trafficking in persons, (2010-2012) 41
Figure 2.5. Map of selected European countries and territories indicating whether they are predominantly a location of origin, transit or destination of human trafficking 42
Figure 2.6. Breakdown of trafficking flows by geographical reach (2010-2012 or more recent) ... 43
Figure 2.7. Number of convictions recorded per year, percentage of countries (2010-2012) 48
Figure 3.1. Number of elephants poached worldwide (2011-2013) 58
Figure 3.2. Ivory Transaction Index (1996-2010) 58
Figure 3.3. Recorded number of rhinos poached in South Africa (2000-2014) 59
Figure 3.4. Rhino poaching arrests in South Africa (2010-2014) 60
Figure 3.5. Trade routes for large-scale (>500kg) seizures of ivory (2000-2008) 61
Figure 3.6. Trade routes for large-scale (>500kg) seizures of ivory (2009-2011) 62
Figure 3.7. Trade routes for large-scale (>500kg) seizures of ivory (2012-2013) 63
Figure 3.8. Large-scale ivory seizures 65
Figure 3.9. Illegal ivory trafficking routes 66
Figure 3.10. Maritime, air and land routes of the illicit rhino horn trade 67
Figure 3.11. The bushmeat chain reaction 68
Figure 3.12. Bushmeat trade in Tshuapa-Lomami-Lualaba Region, the DRC 69
Figure 4.1 Counterfeit drug cases opened by FDA's Office of Criminal Investigations per fiscal year 82
Figure 4.2 Factors that affect the counterfeit trade of drugs 83
Figure 4.3. An example of manufacturing and distribution flows of counterfeit product 84
Figure 5.1. Estimated proceeds of the market for illicit trade in tobacco products, EU 28 (2013) 127
Figure 5.2. World illicit trade in cigarettes by volume growth, 2009-2014 128
Figure 5.3. Project SUN (STAR) methodology 164
Figure 6.1. Homicide rates in Central America's Northern Triangle countries/territories 186
Figure 6.2. Global heroin trafficking routes (2015) 189
Figure 6.3. Relationship between nexus components 200
Figure 7.1. Taxonomy of illicit trade in alcohol 216
Figure 7.2. Patients hospitalised in Poland due to glycol and methanol intoxication 218
Figure 7.3. Illegal alcoholic beverages market in Latin America region 220
Figure 8.1. Global distribution of reported cases of the manipulation of sports competitions in the past 3 years 244
Figure 8.2. Negative demand shock: Impact of match-fixing scandal on a national federation 246
Figure 8.3. Distribution of sports betting market in 2011 247
Figure 8.4. Countries and territories with licensed online gambling (2013) 250

Tables

Table 1.1. Estimated revenues for illicit trade by sector 22
Table 1.2. Arbitrage opportunities for trafficking in cigarettes 26
Table 1.3 Arbitrage opportunities for trafficking in alcohol 27
Table 2.1. Most frequently mentioned source countries of trafficking victims in selected European countries 44
Table 3.1. Illustrative prices for live animals and animal parts 60
Table 3.2. International criminal cases of rhino horn trafficking 64
Table 4.1. Percentage of anti-malarial medication that failed chemical assay analysis in Africa 81
Table 4.2 Top Ten Rogue-friendly Registrars on the Internet 85
Table 4.3. Ten countries most named in PSI incident reports (2011) 109
Table 5.1. Comparison of illicit cigarette penetration, in percentages, for OECD countries in 2012 134
Table 5.2. 168
Table 6.1. Overview of existing public policies to combat the illicit trade in illegal narcotics 201
Table 7.1. Total adult per capita consumption (APC), unrecorded APC and proportion of unrecorded 217
Table 7.2. Summary of lost government revenue 223
Table 7.3. Size of the illicit alcohol market in the United Kingdom (2012-13) 224
Table 8.1. Classification of sports competition manipulation 241

Boxes

Box 5.1. Case study: Poland's illicit smoking tobacco 130
Box 5.2. Measuring tax gaps 134
Box 5.3. Public awareness campaign in Nova Scotia 142
Box 5.4. Funding the rebels 144
Box 5.5. Operations Smoking Dragon and Royal Charm (2005) 146
Box 5.6. The US collaborative effort to combat the illicit trade in tobacco products 153
Box 8.1. The ramifications of money laundering 248
Box 8.2. Case study: how online unlicensed gambling works 252

Executive Summary

Illicit trade is a worldwide phenomenon. Globalisation has provided opportunities for criminal networks to expand the scope and scale of their operations, with serious negative consequences for the economy, the environment and society. Illicit trade also undermines good governance, the rule of law and citizens' trust in government, and can ultimately threaten political stability.

This report provides analysis of some of the main areas of illicit trade, including trafficking in persons, wildlife, counterfeit medicines, narcotics, tobacco, alcohol and sports betting. It looks at what drives and facilitates such activity, estimates the volume of trade and amount of revenue it generates, maps the pathways of illicit goods from production to consumer, describes the shortcomings of current policies for reducing or deterring illicit trade, and suggests avenues for improvement.

Understanding illicit trade

It is important to clearly define and measure illicit trade, and understand the context that allows it to flourish. However, countries – and sometimes regions within countries – do not always agree on what goods can be legally traded, and there is even greater variance in the application of quality standards and the protection of intellectual property rights. These differences can make cross-country measurement of illicit trade as a whole very difficult, which is why this report takes a sectoral approach.

Our increasingly interconnected economies and societies have allowed organised crime to expand alongside the exponential growth in legitimate international trade. Criminal networks exploit differences in regulatory and tax regimes to move goods and services across borders. While exact measurements can be difficult given the clandestine nature of illicit transactions, one estimate puts the profits of international organised crime as high as USD 870 billion, or 1.5% of global GDP. Calculating and tracking the money made from these activities is important as it can provide crucial information to law enforcement. More data and information sharing is needed to develop a clearer understanding of illicit trade and how to combat it.

A more holistic view of the cost of illicit trade also takes into account its harmful impacts on consumers, the environment, tax revenues and jobs. Traffic in humans and narcotics, for example, also exact a very heavy social toll. Illicit trade can also be closely linked to criminal violence and terrorism. Costs in terms of law enforcement, incarceration and rehabilitation should also be taken into account. Finally, illicit trade can cause longer-term damage to the rule of law, public trust, human capital and public health, as well as deter foreign investment.

Trafficking in persons

According to estimates by the International Labour Organisation (ILO), 20.9 million people are forced into slavery worldwide causing immense, long-term damage to individuals, communities, and nations. Trafficked persons tend to flow from poorer regions to richer regions and from conflict regions to more stable regions. Governments need to give priority to implementing laws for preventing trafficking, protecting victims and prosecuting both traffickers and the corrupt public officials who assist them.

Illicit trade in wildlife

Demand for elephant ivory and rhino horn has driven dramatic growth in illegal wildlife markets in recent years due primarily to a growing consumer base in East Asia. Taken together, all forms of wildlife trafficking constitutes one of the most lucrative forms of illicit trade, and the sector has more than doubled since 2007. Monitoring and enforcement in source countries can be effective means to reduce poaching, but training and information systems are needed to build adequate capacity.

Counterfeit medicines

The trade in counterfeit medicine is a huge industry, generating as much as USD 200 billion a year in tangible goods alone according to OECD's study of 2005 data, which is soon to be updated. It has a direct negative impact on health, depriving users of appropriate treatment and contributing to global microbial resistance. Pharmaceutical companies also suffer a loss in revenue and reputation, and increased costs for security. Successfully combatting counterfeiting will require more extensive information-sharing across agencies and nations. Finally, the development and adoption of an international public health treaty would be a significant step toward protecting patients and public health globally.

Tobacco products

The illicit trade in tobacco is perhaps the most widespread and most documented sector in the shadow economy. It has been estimated that 570 billion illicit cigarettes were consumed worldwide in 2011. Illicit tobacco is an important source of revenue for criminal networks, and deprives government services of excise tax revenues at the same time. To counter the illicit trade in tobacco products, governments developing a multi-faceted approach, including: building partnerships, increasing data validity and reliability, launching educational and public awareness campaigns, increasing capacity-building efforts, and prioritising countering illicit tobacco products and its associated crimes.

Narcotics

The global narcotics trade is thought to be the single largest black market in the world, and is a source of revenue for international criminal organization. In addition to the negative impact on human health and well-being caused by the narcotics themselves, the criminal violence that accompanies all aspects of drug trafficking erodes state institutions and is often difficult to reverse. Tackling the narcotics trade effectively will

require not only punitive approaches and sanctions but also state building, economic development and good governance practices.

Alcohol

It is estimated that billions of dollars from trafficking and illegal trade in alcoholic beverages flow through the global economy each year, distorting local economies, diminishing government and legitimate business revenues, and in some cases posing a serious health risk to consumers. It is estimated that illicit sources account for 25% of total worldwide adult alcoholic consumption. Contributing factors include the higher cost of legal products from taxes, weak laws, lack of enforcement and social acceptance of contraband in some countries.

Sports manipulation

The globalisation of sports has led to an increase in unregulated sports betting, which is increasingly used for money laundering and has been connected to corruption in sports (match-rigging). An internationally co-ordinated, pro-active response is needed, including initiatives targeting bettors and offenders, police action and co-operation with financial institutions. It is also important to communicate on the subject of sports integrity to all stakeholders, including the public and the media.

Chapter 1

Illicit trade: convergence of criminal networks

By: Jack Radisch*

This chapter discusses the global characteristics of illicit trade, providing context about its growth, and highlighting expert estimates about such major sectors as trafficking in narcotics, persons, wildlife and several categories of counterfeit goods. It describes the policy implications of transnational organized crime as a lynchpin in the convergence of illegal markets, and outlines the challenges in current policy responses to reduce or deter illicit trade, and suggests how enhancement and leveraging of existing information sources could help efforts to counter this global scourge.

* *Senior Project Manager, OECD Public Governance and Territorial Development Directorate*

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

In 2014, the OECD Council adopted the Recommendation on the Governance of Critical Risks, as a comprehensive set of strategic guidance for governments to contend with major risks of the 21st century (OECD, 2014). The Recommendation has been officially agreed at Ministerial level by the 34 Member countries of the Organisation for Economic Co-operation and Development, as well as adopted by Colombia, Costa Rica, Morocco, Tunisia and Latvia.

An important provision of the Recommendation reflects the concern amongst countries over steady-state risks, such as the international scale of organized criminal networks, and the dynamism of the illicit trade they engage in. The recommendation calls for *mapping the activities of actors in the illegal economy and enable a fuller understanding of the connections between different forms of illicit activities, in order to increase economic and societal resilience to transnational criminal and terrorist networks*."[1] The current report follows on that call and presents sectoral analyses, drawing on cutting edge expertise from the Task Force on Charting Illicit Trade. The task force convenes experts from governments, research institutes, civil society and the private sector to further the understanding and raise awareness of this global risk to legitimate businesses and institutions.

Criminal networks are active on every continent and in every major economy (Albanese, 2015). The illicit trade they engage in has adverse economic, social, environmental and even political impacts - it is holistically destructive to sustainable development. Trafficking in narcotics, arms and especially humans have obviously corrosive social effects. Illicit trade in counterfeits undermines the model of investment in research and development that is essential to high value added knowledge economies. Wildlife trafficking destroys biodiversity, diminishes the sustainability of eco-tourism, and can trigger the spread of zoonotic disease. Most importantly, illicit trade undermines good governance, erodes trust in government and the Rule of Law. It eventually creates threats to political stability as its economic actors use bribery and undue influence to deflect unwanted attention, protect their illegal market share and undermine the public sector integrity.

This introductory chapter presents an overview of trends in illicit trade and discusses their policy implications. The findings show that that organized crime and illicit trade in the era of globalisation have taken on strategic significance, which is corroborated by several National Risk Assessments in OECD countries. The subsequent chapters provide sectoral analysis in the illicit trade of humans (Chapter 2), wildlife (Chapter 3), counterfeit medicines (Chapter 4), narcotics (Chapter 5), tobacco products (Chapter 6), alcohol (Chapter 7) and illegal betting on rigged sports (Chapter 8). The chapters constitute a snapshot of each sector, drawing on including: the author's best estimate of the size of the illegal market, maps of the main pathways from production to consumption, and a reflection on the governance gaps that allow illicit trade in the sector to thrive. This synthesis chapter is designed to bridge understanding across the various sectors of illicit trade, focusing on the structural issues that enabled it to emerge as a global risk.

Can illicit trade be measured?

Black markets have come and gone throughout history and their transactions are unrecorded. Globalisation has changed the geographic scope, volume and range of goods traded in illegal markets, and implicitly the magnitude and gravity of their negative social, economic and even political impacts. Expounding the fundamental characteristics of illicit trade and the economic context that has enabled it to grow supports considerations of the policy options available to reduce it, and helps inform priorities for tactical programmes to dismantle criminal networks.

What is illicit trade?

Considered in its broadest sense, illicit trade is an exchange in the control/ possession of a good or service that a legislature deems illegal, because the object of exchange is dangerous or morally repugnant. Strictly speaking it is inaccurate to speak of sale or purchase (of a legal interest in a prohibited good), because these transactions are not legally enforceable; a vendor has no remedy for non-payment, and a buyer cannot compel a vendor to deliver. One objective of this study was to gather the best available measurements of such dangerous or offensive commercial activity, and also to raise awareness of its impacts. It is difficult to estimate with precision any activity that is intentionally conducted in a clandestine manner, and an even greater challenge to measure their socio-economic impacts. To quantify any phenomenon first entails defining it, and second agreeing on a common set of metrics, such as turnover generated over a specified period of time, or the number of deaths or injuries it causes.

Illegal markets are characterized as including at least four separate categories of commodities and services (Williams, 2015):[2]

1. Prohibited goods or services such as narcotics and commercial sex.
2. Irregular sale of regulated commodities, such as antiquities or fauna and flora, goods that infringe upon intellectual property rights, and goods that do not conform to applicable local standards.
3. The sale of excise goods outside their intended destination market without paying the local excise tax, such as cigarettes and alcohol.
4. The sale of stolen goods, such as cars and electronics.

Despite international conventions that attempt to harmonize laws on prohibited or non-conforming goods, divergence on what goods should be banned persists across countries, and differences are even more pronounced in relation to applicable quality standards and issues of protectable intellectual property rights. The same good may be considered contraband by one country, but perfectly acceptable merchandise in another. The acceptance or prohibition of markets for many goods or services changes over time along with the mores of societies. Indeed, the legality of trading in certain goods even varies within countries.

For example, in recent years a few jurisdictions in OECD countries have regulated the production, distribution and sale of some classes of narcotics, as well as commercial sex. Marijuana can now be legally produced and sold in the state of Colorado in the United States, and the regulated marijuana industry generated USD 700 million in revenue in 2014 (Colorado Department of Revenue, 2015). Likewise, the German trade union

"Ver.di" is cited as having estimated that prostitution accounts for about EUR 14.5 billion in annual revenues as a legal activity in that country (Der Spiegel, 2013).

If a vendor arranges delivery to a buyer out of the state, or a buyer takes marijuana purchased in Colorado out of the state for re-sale, the transaction is illegal. For the purpose of a global study on measuring illicit markets, would the turnover from a transaction be counted when the marijuana is cultivated, marketed, sold and delivered in Colorado, but consumed in a foreign jurisdiction? Any study that aims to produce a comprehensive measurement of illicit markets would need to account for such variances due to legal supply, or its result will overestimate the size of the illegal market. Likewise such a study would have to be extremely well attuned to new forms of illegal markets and recently prohibited goods, or else it risks underestimating the totality of illicit markets.

Changes in policy regarding acceptable or prohibited forms of commerce also make it exceedingly difficult to conduct accurate time series of global estimates for some illegal markets. These divergences raise a fundamental problem of definition that impedes comprehensive and comparable cross- country measurements of illicit trade. For these reasons, this publication explicitly refrains itself from developing one comprehensive aggregate measurement for all forms of illicit trade. It presents an overview of different sectors of illicit trade and asked its experts to select the best estimate for each. For these reasons, this publication explicitly refrains itself from developing one comprehensive aggregate measurement for all forms of illicit trade. It offers a state of the art overview of different sectors of illicit trade, further to a dialogue with expert communities and country representatives.

What are the drivers behind global illicit trade?

Global trends of hyper-mobility, intensified use of cyberspace, urbanisation and population growth, are producing more interconnected societies and economies (OECD, 2011). This often exposes them to events that begin far away, but have knock-on effects that cross national borders. Under these same conditions, transnational organized crime has expanded its activities and entered new markets, while spreading political destabilization and institutional decay.

It is worth placing transnational organized crime in historical context to distinguish this phenomenon in its modern form from the international forms that have been present for well over a century. Historically, the identity of organized crime involved group with ethnic and regional ties. Over the past 140 years several such groups have expanded internationally during broader ethnic diasporas, often triggered by political and economic upheavals. To appreciate the magnitude of the challenges that illicit trade presents and what measures can be taken realistically to reduce or deter criminal actors, one must contextualize it within the growth and centres of legal markets over the past 30 years.

Globalisation presents opportunities to enter new markets and reduce risks to their commercial portfolios by diversifying into profitable activities with low probability of being detected, such as dealing in counterfeits and cybercrime (UNICRI, 2014). Their networks are serviced by, "alliances and illegal production/distribution chains that evolved during the 1970s for trafficking black-market products, such as narcotic substances and smuggling of tobacco and alcohol (UNICRI, 2014). To reap benefits of operating in far-away markets, criminal groups adopted new types of activity and trade to overcome the challenge of connecting production to distant consumers. These new

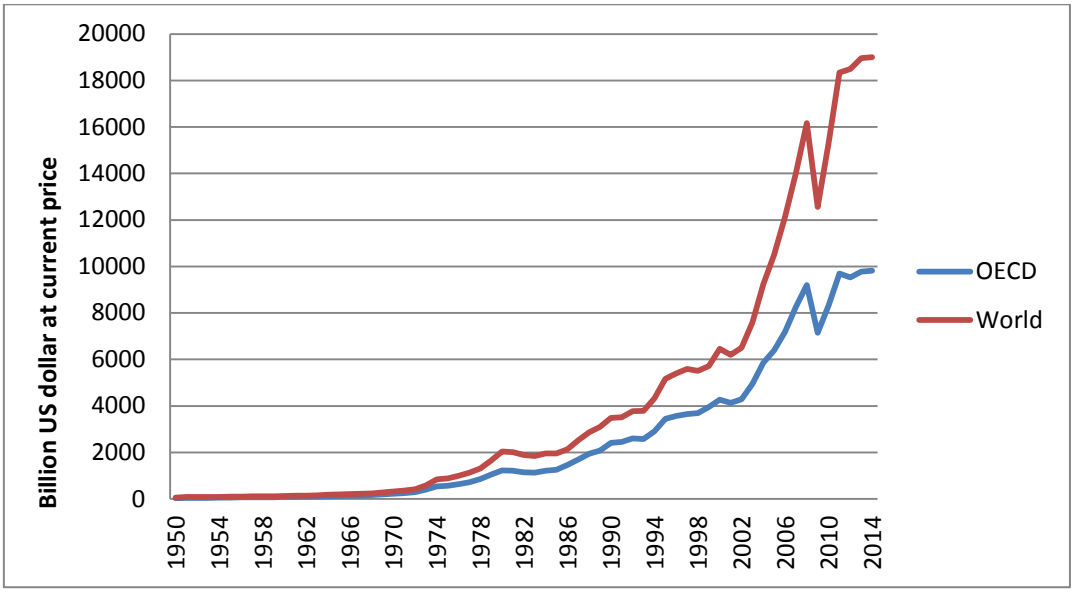
synergies created economies of scale and other efficiencies common to legitimate trade, and the opportunity to diversify into new illicit markets (UNICRI, 2014).

The main drivers of growth in illicit trade are high profits to be won by traffickers who can successfully deliver to black markets under the expanding shadow of globalisation. The profit opportunities in some newer sectors of illicit trade are surprisingly high, e.g. some reports claim the sale of rhino horn trades at USD 60 000 per kilo, but the criminal sentences compared to narcotics trafficking, for example, are far less severe. Criminal organisations actively analyse opportunities to enter new black markets, balancing the potential rewards, with the existing penalties to diversify the range of their illicit activities accordingly. The business models for traffickers seek to develop economic synergies by leveraging their networks in transportation and money laundering, which equips them to deal in everything from counterfeit automobile parts to human parts.

Black markets tend to emerge spontaneously under circumstances where governments impose price ceilings or the regulatory environment creates insurmountable barriers to conduct commerce inside the formal sector. While localized black markets for regulated classes of goods are a nuisance, deprive governments of tax revenue and often lead to the consumption of sub-standard products that cause physical injury, they are not generally perceived as a source of political instability or industrial decline. In the context of globalised trade, however, the stakes involved go far beyond nuisance.

Illicit Trade needs to be presented within the context of global market trends. Globalisation has been a boon to economic growth and living standards in most countries thanks in large part to increasing liberalization of world trade and the cross border integration of value-added economic activity. The highly codified system of international trade regulations and standards, and lower costs of long distance transport and communication, has enabled the dollar value of world merchandise exports to increase from $296 billion in 1950 to $18.8 trillion in 2013 (Figure 1.1) (WTO, 2014). Consumers and other end users of goods-in-trade benefit from a robust body of international agreements, which promote the reduction of import tariffs, export subsidies, import quotas, taxes, and non-tariff barriers. This policy framework for the global trading system is complemented at the operational level by interconnected networks, such as shipping, airlines, rail and roads, information, telecommunications and payment systems, all of which enable the enhanced mobility of people, goods, capital and data. These strides in technological advances and policy coordination enable the production and delivery of highly desirable economic and societal benefits.

Figure 1.1. Trend in volume of world trade - USD billion



New technologies have enabled exponential growth in the volume of legitimate international trade, but they have not eliminated local differences in economic opportunities, changed moral attitudes toward different sorts of economic activity, or increased the capacity of all law enforcement agencies around the world. The liberalisation of trade and relatively low cost of transcontinental supply chains have opened new opportunities for "deviant globalization", a portion of the global economy that meets the demand for goods and services that are illegal or considered repugnant in one place by using a supply from some other part of the world where morals are different or law enforcement is less effective (Gilman, N. et al, 2013). The challenge for law enforcement is to keep up with the speed and massive volume of global markets and trade flows. It cannot control or inspect all shipments, and it operates with an incomplete and sometimes falsified picture of global trade and value chains.

Measurements of illicit market revenues

Illicit trade is motivated by profit-making like any commercial activity. Several international organisations have measured the proceeds of organized crime for different product classes and according to different methodologies, each resulting in a range of estimates. These estimates are generally qualified with the caveat that the hidden nature of criminal transactions makes it difficult for researchers to measure the volumes of transactions and values of business turnover with precision. Available metrics are usually proxies and often depend on information gathered indirectly through law enforcement seizures, arrests, court decisions, whistle-blowers, informants or inadvertent discovery.

According to UNODC, the profits that transnational organized crime derives from such shadow industries have been estimated to be as high as USD 870 billion, equivalent to 1.5 percent of global GDP (UNODC, 2011). It also estimates that more than half of the proceeds were able to be laundered through the global financial system. The largest source of income for transnational crime is drug trafficking which accounts for around half of global proceeds of crime, followed by counterfeiting with a share of nearly 40

percent of total profits. A recent report by the World Economic Forum republished estimates on the annual revenue for 12 types of illicit trade (WEF, 2015). These estimates had been gathered by Global Financial Integrity in 2011, which added them together to arrive at a slightly lower total value for the shadow economy (see Table 1.1 and Figure 1.2). The World Economic Forum report points out that the underlying data used for each sector was first published between 5-10 years ago, or in some cases the methodology used deliberately counts only a portion of the sector in question. For example, the OECD figure on counterfeit and pirated goods is based on data from 2005 and only represents the value of international trade in tangible goods, excluding commerce in counterfeits within countries as well as digital products and online services. The OECD Task Force on Charting Illicit Trade is due to publish a revised estimate of trade in counterfeit goods in 2016 based on updated data.

Measuring the monetary value of illicit markets provides a broad indication of the extent to which traffickers are enriched by this activity. Such measures often use country level seizure data in their methodology to extrapolate the total quantity of smuggled goods in a particular sector, and make assumptions about what percentage of contraband is actually seized; the so-called interception rate. Critics contend that such rates are arbitrarily selected and that slight changes to a rate can lead to large differences in range values.

In addition to the available estimates on the size of illegal markets, a vast literature documents the harmful impacts of illicit trade, including injuries to consumers, degradation to environmental systems and biodiversity, erosion of government tax revenues and elimination of jobs in legitimate industries. These negative externalities on economic stability, social welfare, deterioration of public health and public safety and environmental degradation provide a more holistic view of the ills of illicit trade than simply measuring the size of criminal profits (Picard, J., 2013). It is important to consider not only the capital that illicit trade generates for criminal networks, but also the consequences.

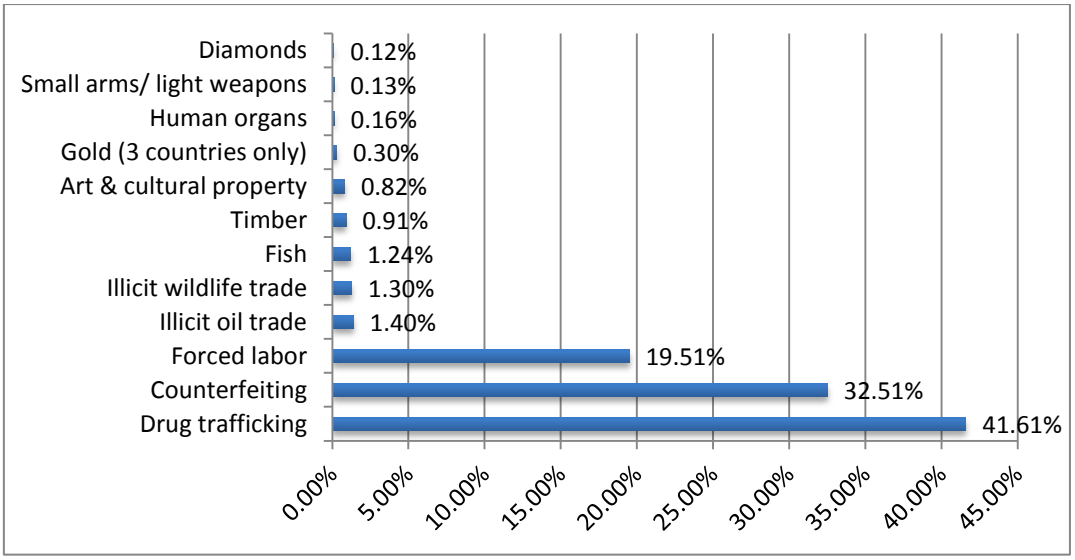
For example in destination countries for trafficked persons the impacts include depressed salaries, poor working conditions, increased work injuries and economic development based sex tourism. Industries suffer lost sales and lost jobs, and governments lose out on expected tax revenues, which has an impact on the quality of public services. The effects of illicit trade are also felt in the costs of law enforcement, incarceration and rehabilitation. Over the longer term illicit trade also undermines trust in government and declining trust in public institutions, undermines the rule-of-law, erodes human capital, deters foreign investment and deteriorates public health. Nonetheless, the growing wealth of criminal networks is important to quantify and qualify. Market analysis can provide insights on how to cure the problem at its sources, whereas analysis of effects can only offer guidance on temporary remedies to victims. If research can estimate how much money these networks make, where the money comes from and where it goes to, law enforcement efforts will be much better informed both in strategic and tactical decisions to dismantle the networks.

Table 1.1. Estimated revenues for illicit trade by sector

Illicit activities (total) 770 billion	Figures (billions USD)
Drug trafficking	320.0
Counterfeiting	250.0
Forced labour by private enterprise	150.0
Illicit oil trade	10.8
Illicit wildlife trade	10.0
Fish	9.5
Timber	7.0
Art & cultural property	6.3
Gold (3 countries only)	2.3
Human organs	1.2
Small arms/ light weapons	1.0
Diamonds	0.9

Source: Global Financial Integrity (2011).

Figure 1.2. Revenues of illicit trade (by % of total revenues)



Source: Author, data taken from (UNODC, 2005), (OECD, 2008), (ILO,2005), (Raymond Baker, 2005), (Coalition Against Wildlife Trafficking, 2009), (High Seas Task Force report, 2010), (Seneca Creek report, 2009), (UN Crime Prevention & Criminal Justice, 2010), (Small Arms Survey, 2002), (Kimberley process statistics, 2009).

An overview of key sectors

The chapters in this report provide estimates of the market size in several major sectors in illicit trade based on publicly available sources. The recurrent theme in illicit trade is the concept of arbitrage, i.e. taking advantage of a price difference between two

or more markets. Whether the margin is a difference in unpaid excise tax, or selling cocaine in a major consumer market at 100 times the price per gram of the price in a source country, illicit trade comes down to procuring a product at low price and managing its transportation and storage until it is sold at a higher price.

Trafficking in persons

Governments face significant struggle in controlling trafficked flows of people, and the harms to individuals and economies that result, such as forced labour or the human organ trade. Figure 1.3 presents the International Labour Organisation estimate that 20.9 million people are forced into labour worldwide (ILO, 2014). Almost 19 million victims are exploited by private individuals or firms, which is claimed to generate USD 150 billion in illegal profits per year (ILO, 2014). Modern slavery is considered by many to be the most repugnant form of deviant globalisation, but it does not shock the sensitivities of all cultures, which explains the sources of many human trafficking flows. Sexual exploitation cases account for most cases of forced labour in Europe and the Americas, while in Africa and the Middle East the main purpose of trafficking in persons is forced labour.

Human trafficking is overwhelmingly an international phenomenon, with 73 percent of all reported victims trafficked across borders. According to the International Labour Organisation nearly two-thirds of forced sexual workers are trafficked across borders, a fact which underscores the role of transnational networks (ILO, 2014). Beyond the obvious deprival of basic human rights, this form of illicit trade has long lasting impacts on the health, well-being and productivity of individuals, and it depletes important sources of human capital in emerging economies.

The legal prohibition of human trafficking has increased in the past ten years, but implementation of these laws is weak in terms of prevention, protection of victims and the prosecution of offenders. Governments that do not vigorously enforce the laws against trafficking in persons are tacitly contributing to the competitive advantage of firms that use forced labour. Priority should be placed on implementation of laws against human trafficking, including efforts to identify and prosecute corrupt public officials who facilitate this illicit trade for organised criminal groups.

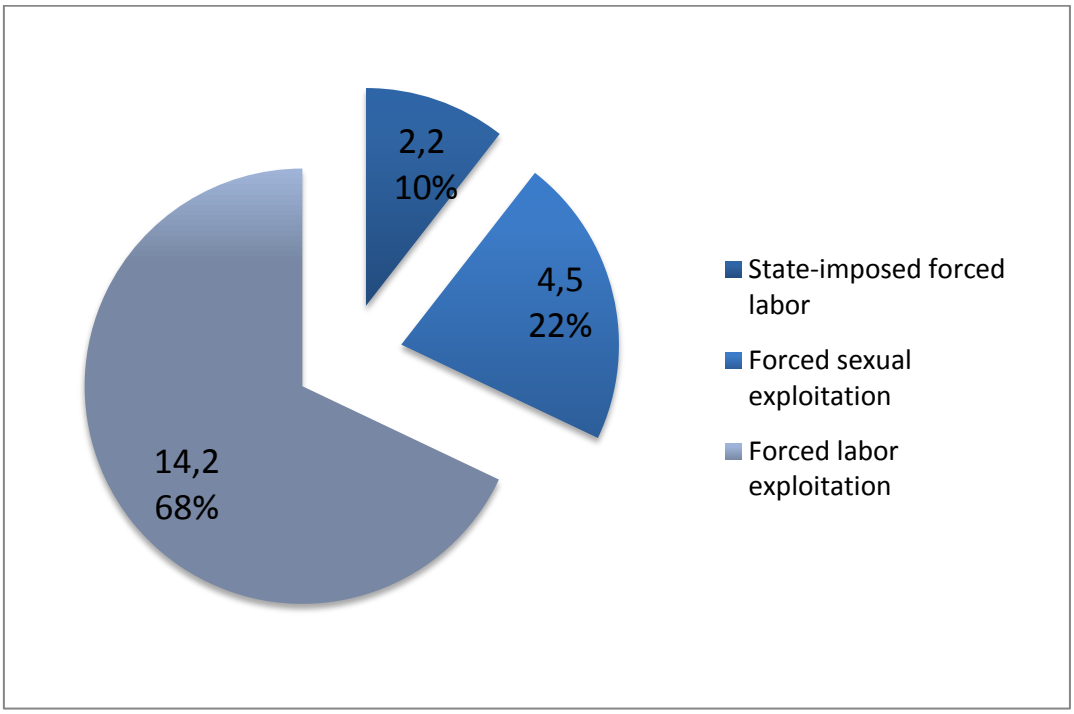
Illicit trade in wildlife

Trafficking of endangered wildlife is another important sector, with specific implications for Sub-Saharan Africa. Wildlife trafficking involves the commercial sale of endangered species and their parts, products and derivatives. The networks involved in wildlife trafficking between sub-Sahara Africa and Asia are of particular concern from a security policy perspective due to their associations with listed terrorist organisations. Behind the steep rise in poaching of elephants and rhinos over the past 15 years is the growing demand from a growing middle class in Asia that wants to purchase status objects and traditional medicine. Elephant tusks and rhino horns are the raw materials for some of the most popular items, such as ivory jewellery and sculpting artefacts. (Joossens, L. et al., 2010).

The United Nation's Convention on International Trade in Endangered Species (CITES) has stated that 1,215 rhinos were killed in South Africa in 2014, a record high and ten-times the number of rhinos killed for their horn in 2009. In the last three years, poachers have killed 100,000 African elephants. The slaughter of wildlife is not just a

matter of conserving biodiversity, in some countries the reserves where these animals live are important sources of tourism revenues and employment. Further, while the economic impacts of wildlife trafficking may be local, the illegal trade in bush meat is a potentially global risk, due to the spread of zoonotic diseases (Smith, K.M., 2012). During the 2014 Ebola outbreak, it was estimated that 7,500 tons of illegal meat enters United Kingdom each year.

Figure 1.3. Millions of people in forced labour



Source: ILO (2014), *Profits and poverty: The economics of Forced Labour*, International Labour Organisation, Geneva.

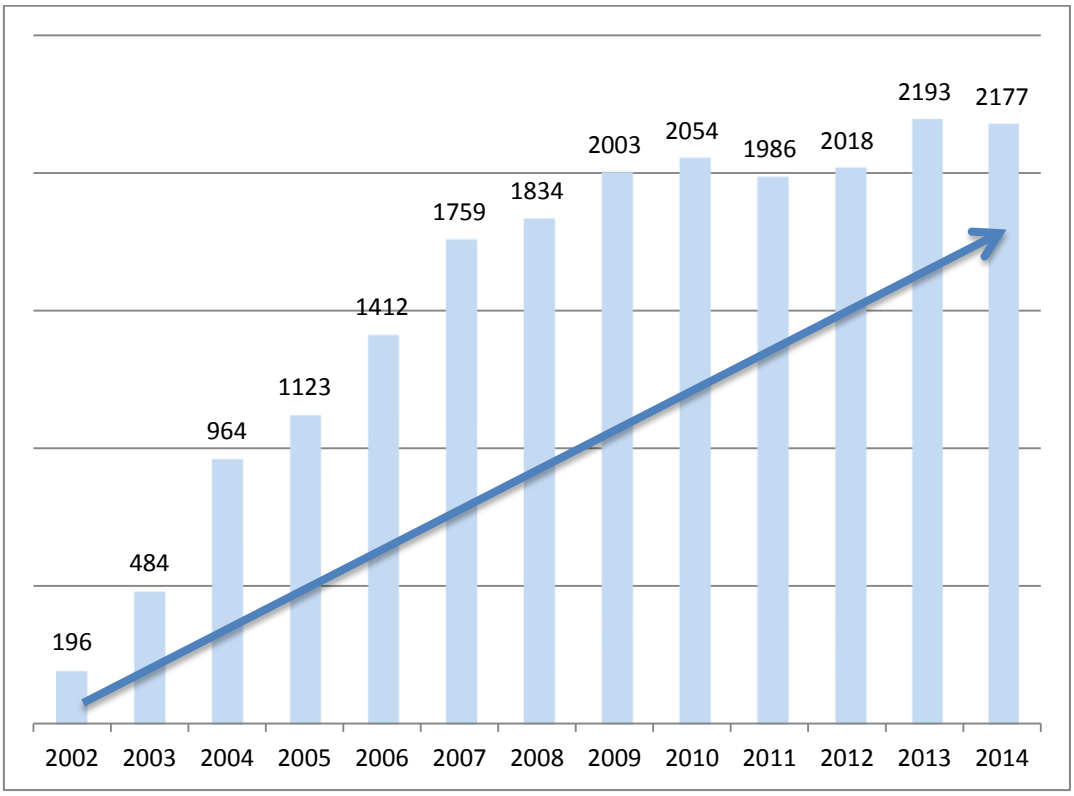
Counterfeit medicines

The issue of counterfeit medicine is also a very significant economic, health and social concern. According to an official of the World Customs Organization (WCO), counterfeit pharmaceuticals are now a USD 200 billion-a-year industry (Irish. J., 2010). The World Customs Organization's 2013 report on Illicit Trade reported 24 092 seizures of intellectual property-offending goods, and more than half of these were related to illegal pharmaceuticals (WCO, 2013).

Counterfeit medicines have a direct impact on human health, since the user is not receiving the benefit of the prescribed treatment. Moreover, counterfeit pharmaceuticals undermine the fight against infectious diseases by contributing to global microbial resistance and more virulent forms of disease. The prevalence of counterfeit medicine hinders the innovation model that is key to economic growth in OECD countries, jeopardizing the expansion of research and development within existing legal companies and foreign investments. In some severe cases the expansion of counterfeit medicine has even led to the closure of law-abiding companies. Raising awareness about the risks of

counterfeit pharmaceuticals could sensitize consumers to the complex issues associated with intellectual property in this area.

Figure 1.4. Pharmaceutical crime- incidents of counterfeiting, illegal diversion and theft



Source: Pharmaceutical Security Institute (2015).

Illegal narcotics

Global trade in illegal narcotics is generally considered to be the single largest black market worldwide and finances notorious transnational criminal organisations. Ten years ago the United Nations Office on Drugs and Crime estimated that the illegal trade in narcotics generated USD 321.6 billion per year in revenue (UNODC, 2005). The largest retail sales in illegal drugs come from the sale of cannabis herbs, followed by cocaine and opiates. Aside from retail revenues, it is important to assess the economic impact of the harms caused by drug use.

Different methods are used to produce an estimate of these harms in monetary terms, such as the "cost of illness" approach, which concentrates on economic losses, or multi-criteria decision analyses, which additionally focus on the physical, psychological and social aspects of illegal drug substances. Addictions lead to important drains on public resources, including costs of policing petty crimes, incarceration and rehabilitation. UNODC has estimated that between 162 and 324 million people used cannabis, opioids, cocaine or an amphetamine-type stimulant group at least once in the year 2012, which equals around 3.5 and 7.0 percent of the global adult population. The distribution of users, however, is concentrated in advanced economies, while the main raw materials for

opiates and cocaine come from emerging or developing countries (UNODC, 2010). Competition to distribute illegal narcotics is notoriously violent, and has led to hundreds of thousands of violent deaths, including many bystanders. The use of drug trafficking is also a well-known means to finance the activities of organizations whose objective is to overthrow established political orders through violence, and is thus considered a major risk to the rule of law.

Tobacco products

Illicit trade in tobacco represents a multifaceted crime which may involve counterfeiting, cross-border smuggling and tax evasion, and which has also been identified as a source of revenue for terrorist activities in several areas. Cigarettes present high profit margins and are among the most commonly traded products on the black market due to the relative ease of production and movement, along with low detection rates and penalties. Estimates of the global value and volume of the illicit trade in tobacco products are as high as 11.6%, with developing countries registering a higher average share (around 16.8 percent) than advanced economies (around 9.8 % on average).

Table 1.2 illustrates the opportunity for tax arbitrage by smuggling cigarettes into Turkey from many surrounding countries. Ukraine is one of the cheapest cigarette selling countries in the region. The excess production of cigarettes is estimated to exceed 40 billion sticks, which is either legally or illegally imported to other countries, and especially Turkey. Harmonizing the cigarette prices in the region has been discussed by the Black Sea Economic Cooperation Organization.

Table 1.2. Arbitrage opportunities for trafficking in cigarettes

Country	Price per pack of cigarettes (Euros)
Turkey	3.40
Armenia	1.30
Bulgaria	2.60
Georgia	1.30
Greece	4.00
Iraq	1.00
Iran	2.00
Romania	2.80
Syrian Arab Republic	1.10
Ukraine	1.20

Perhaps the most significant economic impact, and consequently social impact, is the loss of government revenue from the collection of taxes and duties, since governments need taxation revenue to fund public programs. It has been estimated that annual government revenue losses of unpaid taxes on cigarettes reached USD 40 billion in 2010, a figure comparable to the 2014 sales of Goldman Sachs Group or UBS. In the European Union alone the consumption of illicit cigarettes increased over the recent years and reached 11.1% of the total market in 2012, which equates to EUR 12.5 billion in lost tax revenues across EU member states.

Alcohol beverages

Illicit trade also affects the alcohol beverages industry, which as an excise good also suffers from the smuggling of products across borders to take advantage of tax arbitrage (see Table 1.3). The direct impacts of illegal alcohol therefore are lost tax payments, but it should be noted that the WHO estimates that non-commercial sources account for nearly 25% of total worldwide adult alcohol consumption (WHO, 2014). Illicit alcohol is a serious public health problem. Fatal cases of poisoning occur around the world ever year due to the ingestion of illicit alcohol, and tests of seized illicit alcohol very often reveal that it does not meet regulatory standards. Low-income countries, where illicit alcohol beverages are often priced at below market, have a higher proportion of unrecorded alcohol consumption than high-income countries prices.

Table 1.3 Arbitrage opportunities for trafficking in alcohol

Country	Alcohol price index (base 100)
Turkey	100
Armenia	54
Bulgaria	52
Georgia	46
Greece	104
Iraq	59
Lebanon	77
Romania	63
Syrian Arab Republic	50
Ukraine	34

As illustrated in Table 1.3, excise taxes on alcohol can lead to a so-called "tax-opportunity" which increases the potential revenue of the illicit alcohol market. Whether a tax differential on paper translates into a profit opportunity on the ground depends on various factors, such as geography and law enforcement capacity. Comparisons among countries with similar income and enforcement status present an intriguing case for analysis, for example between Sweden and Finland. Finland reports a lower share of unrecorded APC than Sweden despite higher excise tax on alcohol.

Sports manipulation as economic crime

Another aspect of the underground economy that has developed recently concerns unregulated sports betting, and the associated abuses of rigged sporting events. The attraction to engage in the black market for betting is rooted once again in profit derived from regulatory arbitrage. Illegal sports books typically offer better returns on the same event compared to a regulated parlour. As a consequence, governments lose tax revenue on the unaccounted for earnings, and legal bookmakers are submitted to the pressure of an unfair competitor who avoid significant costs of regulatory compliance. The findings report on the involvement of illegal betting operations in match-rigging, i.e. changing the result of a sports competition by threat or payment to players, team management or officials, to secure a pre-ordained result (Sorbonne-ICCS, 2014). When bookmakers

know the final outcome in advance they can influence the odds and maximize profit for organized criminal networks.

Understanding the broader challenges

The convergence of market sectors creates a global threat

Organized criminal groups in past tended to manage a fairly limited range of illegal goods and services that could be procured and delivered locally: e.g. stolen merchandise, extortion, prostitution and illegal bookmaking. There are many historical examples of smuggling prohibited goods across international borders and through long distance supply chains, but crime as an industry seems to have transformed in the 1970's with the steep increase of international trade in illegal narcotics. The mastery of smuggling networks enabled previously parochial organizations to expand and enter a broad range of illicit markets, converging several forms of trafficking into full range service. Convergence is seen in more than 30% of organized crime groups active in Europe are involved in more than one type of crime (Europol, 2014). If the trafficking route is functioning without detection and can accommodate different classes of products, the opportunity to maximize benefits is a rationale to move all types of contraband.

While the analysis presented in this report highlights examples of criminal networks and their involvement in different illicit markets. Trafficking in persons have been linked, for example, to drug trafficking, illegal and undeclared fishing, environmental crimes, arms trafficking, maritime piracy, and tobacco smuggling. A convergence of trafficking in people and illegal drugs is observed due not only to risk optimisation, but also because drug dependencies create victim who are easy to target. Transnational marine resources crimes have been observed to be connected to trafficking in persons again due to convenience, i.e. the ease of abusing fishing vessels for multiple criminal purposes. Law enforcement agencies have found that the same distribution chains for trafficking in counterfeit tobacco are at times used for counterfeit pharmaceuticals and counterfeit currency, and that the proceeds of trafficking in tobacco have been used for the training of terrorist cells. An important observation in the analysis of the report is the link between terrorist organisations and the illicit trade in tobacco products, wildlife trafficking and counterfeit household goods. Connections between terrorist organisations and illicit markets in counterfeit medicines and alcohol are reportedly weaker.

Criminal networks have acquired a global outlook for new illicit markets. From their perspective national borders with prohibitive laws and regulations are market barriers that most people cannot navigate, which creates a business opportunity to meet a demand and earn a profit. Illicit networks depend on and benefit from the same technologies and innovations that help legal private industry navigate globalisation. They have been known to adopt the latest technology to commit crimes, such as cyber extortion (Financial Times 2013) and to communicate in business operations, such as recruiting, exchanging tools of the trade, and even to attract and communicate with new clients. Facilitators use social media tools linked to Facebook accounts to identify clients and connect them with secure payment systems for passage from Turkey to Greece (Cook, L., 2015, Euractiv, 2015).

This level of sophistication presents a substantial challenge to government law enforcement agencies and international institutions that are often unable to cooperate as rapidly as criminals can adapt their business practices to avoid identification. In addition

to their comparative agility, criminal enterprises are increasingly involved in one or many phases of illicit commerce (production, distribution, sale, purchase or barter, or transfer of proceeds), depending on the profits to be made. For example, most counterfeits sold in the European Union are still produced outside of it, however, evidence of coordination between criminal different criminal organisations in Europe shows a new pattern of cost effective production of counterfeit goods inside the European Union (Europol, 2015). Certainly this avoids most customs controls and enjoys lower transport costs.

The importance of known flows/hubs of illicit trade

Hubs of illicit trade are generally classified as a source, transit point or destination. Each type of location plays an important role in illicit markets, but a location does not always fit just one classification. As many goods in a global economy, production may take place in several phases along a value chain. Furthermore, the destination points are not only a location for consumption, but illegal financial transactions to keep the wheels of the industries turning. If the producers and movers of prohibited products are not paid, then future supply will stop. The most obvious supply side and demand side policy measures to reduce or deter illicit trade apply only to first source or final destination countries, for example burning crops on the supply side or consumer education and rehabilitation on the demand side. Depending on the product, however, transit hub points are the most challenging link in the supply chain to impact with public policy.

Numerous locations possess the characteristics that appeal to criminal enterprises as transit hubs to move products from source countries to consumer markets. The ideal qualities sought are a developed infrastructure to accommodate international trade such as large ports or airports and weak governance (i.e. official corruption, incomplete or weak legislation, non-transparent financial institutions) unfavourable economic conditions, and weak law enforcement capacity (lack of respect for the rule of law in society, and poorly guarded national borders). Such conditions enable traffickers to operate "under the radar" as law enforcement perceives more pressing priorities. The analysis provides examples of such places based on the extensive secondary literature. To create a centre for operations, illicit networks only need one jurisdiction to lower its guard in the enforcement of its laws. Several weak or failed States lack the will or capacity to prevent international trafficking of prohibited goods. Some countries have been accused with more than lacking capacity or negligence, but are rather complicit in allowing their territory to be used as a transit point (Nahim, 2011).

The raw materials used to produce some of the most profitable prohibited goods can only be efficiently mass produced in specific climates, such as coca leaf or the opium poppy. The leading source countries for coca leaf are all located in South America: Plurinational State of Bolivia (hereafter “Bolivia”), Colombia, Ecuador and Peru. One characteristic common among all of the world’s major opium- and coca-producing states are that they are either ravaged by conflict, unable to control their entire territory, or experiencing varying degrees of political instability. These routes and hubs obviously facilitate the illicit flow of many different commodities as well, including narcotics but also contraband such as weapons and humans.

The law enforcement community has called for increased attention to the flows, routes and hubs along which trafficking organisations operate and illegal goods are smuggled and trafficked. Specific trading routes across countries change quickly to avoid detection by law enforcement, and there is a need to develop faster information exchange

to identify hubs, routes and hotspots so that law enforcement is not constantly outmanoeuvred.

Conclusion

Illicit trade is a global risk with roots in the diverging prohibitions of many countries. These divergences are legal in the first instance, but underneath this formalistic view are differences in capacity to enforce laws, poverty traps that create economic pressures to look for any source of income, and sometimes fundamentally different mores. The effort to reduce or deter illicit trade involves complex and sometimes competing issues of public policy, such as deterring the consumption of certain goods while protecting economic, human and social objectives. International dialogue to build the understanding of these issues is a necessary step toward solving this major global challenge.

The first step is to understand the types of illegal markets, the trafficking routes used, and the methods that criminal entrepreneurs employ. Countries can learn from each other's successes by studying the methods used to identify suspicious activity and the commercial means abused to make illicit trade possible, whether in transport, money laundering or corruption. Criminal organisations are sophisticated analysts of legal regimes and regulations, and are constantly on the look-out for arbitrage opportunities. Taking the profit out of crime and exposing its financiers and masterminds is the key to dismantling the networks that form its operational backbone.

Successful disruption of illicit trade requires concerted, multi-stakeholder efforts at national and international level. This includes law enforcement, both domestically and internationally. Due to its impact on revenue collection, this is an area of high relevance for customs authorities. Countries could strengthen their efforts to enhance the availability of seizure information through input into the WCO CEN database, and support similar initiatives that would enhance the work of customs officials, such as the Enforcement Database of the European Observatory for the Harmonisation of the Internal Market.

Combating illicit trade at national level is a shared responsibility which requires a whole of society approach involving, relevant government agencies, the manufacturers and distributors of impacted industries, consumers and the general public. Governments have to create the appropriate environment for the participation of all concerned partners. Similarly, cooperation and collaboration is needed between the various government agencies such as the customs, police and regulatory bodies for impacted industries. For example, the United States has established an inter-departmental group on illicit trade in tobacco drawing on experts in taxation, health regulations, intellectual property, customs, diplomatic efforts, counter-terrorism, transnational organised crime, postal systems and inspectors, prosecutors and traditional law enforcement personnel.

A multi-stakeholder effort also leverages the expertise of companies that have business and reputational risks at stake when their products are counterfeited. Federating the efforts of multi-nationals and NGOs with extensive data on the volumes, flows, sources and destinations of illicit goods could play a stronger role in contributing data to support the research and mapping efforts of international organisations.

The OECD has created a platform for knowledge sharing and for identifying good practices, through the Task Force on Charting Illicit Trade (http://www.oecd-tfcit.org/index.html). It has also attempted to federate the efforts of international

organisations and NGOs with extensive data on the volumes, flows, sources and destinations of illicit goods. Making these data bases accessible for public research and public policy objectives would further strengthen the overall objective of mapping trafficking routes, and hubs of illicit trade, which is useful to target capacity building in law enforcement and good governance.

Mapping the financial flows emanating from illicit trade has wider implications related to the global development agenda. Illegal transfers of money and capital out of developing countries strip domestic resources that need to be mobilized locally to finance public services. "The most immediate impact of illicit financial flows is a reduction in domestic expenditure and investment, both public and private. This means fewer hospitals and schools, fewer police officers on the street, fewer roads and bridges." Identifying the structure of the financial and trade systems that are abused to abet capital flight would help to develop policies to tighten loopholes, and establish red flag indicators prior to the infiltration of the financial sectors by criminal proceeds.

Criminal penalties against various forms of illicit trade are relatively weak, and encourage criminal organisations to diversify their activities. In many unregulated countries (with no specific regulation and no quality control for pharmaceutical products) there is also a lack of legislative and executive powers to prosecute pharmaceutical criminality i.e. the legal impact of counterfeiting pharmaceuticals is comparable to counterfeiting other mass-market goods. Initiatives such as the Medicrime convention treat the counterfeiting of medicines as criminal fraud against ill people, the most vulnerable of our societies, and the undermining of the public trust in the capacity of governments to provide effective health services.

One of the obstacles to preventing or combatting illicit trade is the gaps in international cooperation, reflecting a "prisoner's dilemma", with a collective incapacity to take on the necessary collective action. While a number of international initiatives have been established, there is scope for further improving cooperation among public authorities with responsibility for the detection, arrest and prosecution of traffickers. These cases often require coordination between law enforcement authorities that are separate administrative bodies, and entail the gathering of evidence from affected individuals and companies. Regional agreements and internationally agreed principals on mutual police assistance, extraditions and the sharing of evidence, such as those set forth by the G7 Roma-Lyon Group, should be made mandatory and monitored by an international organisation for their implementation.

Notes

[1] See Council Recommendation on the Governance of Critical Risks, p.6, Principle 3.2.i

[2] Annotations added by the author in italics.

References

Albanese, J. (2015), *Transnational Organized Crime: An Overview from Six Continents*, edition 3, Anderson Publishing Company, Cincinnati.

Colorado Department of Revenue (2015), *Colorado Marijuana Tax Data*, https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data, (accessed 1 December 2015).

Der Spiegel Online International (2013), *Unprotected: How Legalizing Prostitution Has Failed*.

EurActiv.com (2015), *Migrants use Facebook, messaging apps to liaise with smugglers*, www.euractiv.com/sections/infosociety/migrants-use-facebook-messaging-apps-liaise-smugglers-317338.

Europol (2015), Exploring tomorrow's organised crime, p.39.

Gilman, N. et al, (2013), "Deviant globalisation", in *Convergence* (ed. Miklaucic, M. and Brewer, J.), p. 3.

Global Financial Integrity (2011), "Transnational Crime in the Developing World"

ILO (2014), *Profits and Poverty: The economics of Forced Labour*, International Labour Organization, Geneva.

Irish, J. (2010), "Customs group to fight USD 200 bln bogus drug industry," Reuters.com, June 10, available at www.reuters.com/article/2010/06/10/us-customs-drugs-idUSTRE65961U20100610/.

Joossens, L. et al. (2010), "The impact of eliminating the global illicit cigarette trade on health and revenue", *Addiction*, Vol. 105/9, pp. 1640-1649.

"Weak States and Porous Borders: Smuggling Along the Andean Ridge," in Kimberley L. Thachuk, Transnational Threats: Smuggling and Trafficking in Arms, Drugs, and Human Life, Westport, CT: Praeger Security International, 2007.

OECD (2014), *Council Recommendation on the Governance of Critical Risks*, OECD, Paris, http://www.oecd.org/gov/risk/Critical-Risks-Recommendation.pdf.

OECD (2008), *The Economic Impact of Counterfeiting and Piracy*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264045521-en.

Patrick, S. (2006), "Weak states and global threats: fact or fiction?" *Washington Quarterly*, Vol. 29/2, p.25.

Smith K.M. et al. (2012) "Zoonotic Viruses Associated with Illegally Imported Wildlife Products", *PLoS ONE*, Vol. 7/1, PLoS, San Francisco.

Sorbonne-ICCS (2014), *Protecting the Integrity of Sport Competition: The Last Bet for Modern Sport*, Sorbonne-ICSS Research Programme on Ethics and Sports Integrity,

University Paris 1 Panthéon-Sorbonne and the International Centre for Sport Security, Paris.

UNICRI (2014), *Confiscation of the Proceeds of IP Crime: A modern tool for deterring counterfeiting and piracy*, United Nations Interregional Crime and Justice Research Institute, Turin.

UNODC (2013), *World Drug Report 2013*, United Nations Office on Drugs and Crime, Vienna, www.unodc.org/unodc/secured/wdr/wdr2013/World_Drug_Report_2013.pdf

UNODC (2011), *Estimating illicit financial flows resulting from drug trafficking and other transnational organized crimes*, United Nations Office of Drug and Crime, Vienna, www.unodc.org/documents/data-and-analysis/Studies/Illicit_financial_flows_2011_web.pdf.

UNODC (1998), *Economic and Social Consequences of Drug Abuse and Illicit Trafficking*, United Nations Office of Drug and Crime, Vienna, http://www.unodc.org/pdf/technical_series_1998-01-01_1.pdf.

Farah, D. (2014), *Fixers, Super Fixers and Shadow Facilitators: How Networks Connect*, International Assessment and Strategy Center, www.strategycenter.net/docLib/20120423_Farah_FixersSuperFixersShadow.pdf.

Williams, P. (n.d.), *Crime, Illicit Markets, and Money Laundering*, Carnegie Endowment, http://carnegieendowment.org/pdf/files/mgi-ch3.pdf, p. 107.

WCO (2013), *Illicit Trade Report*, World Customs Organisation, Brussels, p. 63.

WHO (2014), *Global status report on alcohol and health*, World Health Organisation, Geneva, www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_1.pdf?ua=1.

WEF (2015), State of the Illicit Economy: Briefing Papers, World Economic Forum, Davos.

WTO (2014), *Press Release PRESS/721, 14 April 2014*, World Trade Organisation, Geneva.

Chapter 2

Trafficking in persons: Trends and patterns

By Kristina Kangaspunta* and Andy Guth**

It is estimated that thousands of people have lost their lives attempting to migrate to Europe in 2015. The migrant crisis has drawn unprecedented attention to the dangers of human smuggling, but it has done little to improve understanding that the crimes of "human trafficking" and "smuggling of migrants" are distinct forms of organized crime. Smuggling is a crime against the state, involving facilitation of illegal crossing of borders for a fee. Trafficking is a crime against a person, involving the ongoing exploitation of another human being in forced labour or forced prostitution.

This chapter provides aggregate information about the profiles of trafficked persons worldwide, thee numbers of persons trafficked, where they come from and where they go, some of the most oft cited estimates about the market value of trafficked persons. The social harms of this criminal activity are readily apparent, thus the chapter outlines some of the economic harms to source and destination countries.

* United Nations Office of Drugs and Crime (UNODC), ** Doctoral candidate, George Mason University.

The opinions expressed and arguments employed in this chapter are those of the author(s) and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

This chapter and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

The hidden character of human trafficking makes it difficult to accurately measure its volume and value on a global scale. Various methodologies have provided a range of figures, but some of the most widely accepted estimates and respected methodologies come from the International Labor Organization (ILO).

The ILO contends that approximately 20.9 million people are victims of forced labour in recent years. This number does not include trafficking for the removal of organs, forced marriage or forced adoption, unless these subsequently lead to forced labour. The United Nations Office on Drugs and Crime (UNODC, 2012) contends that 0.3% of human trafficking occurs for the purpose of organ removal. On the basis of these two figures, it is estimated that approximately 21 million people are the victims of trafficking at any given moment. Women and girls make up 11.4 million (55%) of those in forced labour, while men and boys make up 9.5 million (45%). Adults make up 15.4 million (74%) of forced labour, while children under the age of 18 make up 5.5 million (26%) (ILO, 2012).

The ILO contends that approximately USD 150 billion in profits are generated annually from these 20.9 million people (ILO, 2015).

Defining trafficking in persons

The United Nations' Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organised Crime, aims to prevent and combat trafficking in persons, to protect and assist victims and to promote international co-operation to prevent trafficking. It defines trafficking in persons as follows:

a) *"Trafficking in persons" shall mean the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs.*

b) *The consent of a victim of trafficking in persons to the intended exploitation set forth in subparagraph (a) of this article shall be irrelevant where any of the means set forth in subparagraph (a) have been used.*

c) *The recruitment, transportation, transfer, harbouring or receipt of a child for the purpose of exploitation shall be considered "trafficking in persons" even if this does not involve any of the means set forth in subparagraph (a) of this article.*

d) *"Child" shall mean any person under 18 years of age (United Nations, 2004).*

The above definition suggests three constituent elements:

- The *act* (what is done)
  - Recruitment, transportation, transfer, harbouring or receipt of persons.
- The *means* (how it is done)
  - Threat or use of force, coercion, abduction, fraud, deception, abuse of power or vulnerability, or giving payments or benefits to a person in control of the victim.
- The *purpose* (why it is done)
  - For the purpose of exploitation, which includes exploiting the prostitution of others, sexual exploitation, forced labour, slavery or similar practices and the removal of organs (UNODC, 2008).

It is often difficult to draw the line between trafficking in persons and other instances of irregular migration, particularly when people are moving to find better living conditions. Confusion is particularly common between trafficking in persons and the smuggling of migrants. Even though there are grey areas in which it is difficult to define a situation unambiguously as trafficking, there is an important distinction between trafficking and smuggling of migrants and their implications.

The United Nations' Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the UN Convention against Transnational Organized Crime, aims to prevent and combat the smuggling of migrants, protect the rights of smuggled migrants and promote international co-operation to prevent smuggling. It defines smuggling of migrants as follows:

> *"Smuggling of migrants" shall mean the procurement, in order to obtain, directly or indirectly, a financial or other material benefit, of the illegal entry of a person into a State Party of which the person is not a national or a permanent resident (United Nations, 2004).*

The main differences in the definitions of trafficking in persons and smuggling of migrants concern the issues of consent, border crossing, exploitation and source of profit.

- Consent: While smuggled migrants generally consent to being smuggled, trafficking victims have either never consented or, if they initially gave their consent, it is rendered meaningless by the traffickers' actions.
- Border crossing: Smuggling facilitates a migrant's illegal border crossing and entry into another country. Trafficking in persons does not require a border crossing and may or may not involve crossing a border. Trafficking in persons may occur within the borders of one country or across borders, from one country to another. The legality or illegality of the border crossing is irrelevant in the trafficking of persons.
- Exploitation: The relationship between the smuggler and smuggled migrant usually ends after the border crossing; the smuggler does not intend to exploit the smuggled person after arriving at the destination. Trafficking always involves continued exploitation of victims after arrival at their destination.
- Source of profit: Smugglers generate their profits from the fees for moving people. Traffickers profit through the exploitation of the victim.

While it can be difficult to distinguish between human trafficking and human smuggling, the consequences of mistakenly identifying a victim of trafficking as a smuggled migrant often prevents the trafficked person from being treated in a way that respects victims' rights for support and protection (Kangaspunta, 2011).

Different types of trafficking in persons

Information on trafficking cases and victims is largely gathered by police or other authorities, NGO workers or other service providers, or is detected by researchers or the media. Many cases presumably go unreported, limiting the available data to the few cases that do come to light.

Trafficking in persons is categorised under various criteria, e.g. form of exploitation, victim profiles and the countries involved (Smith and Kangaspunta, 2011).

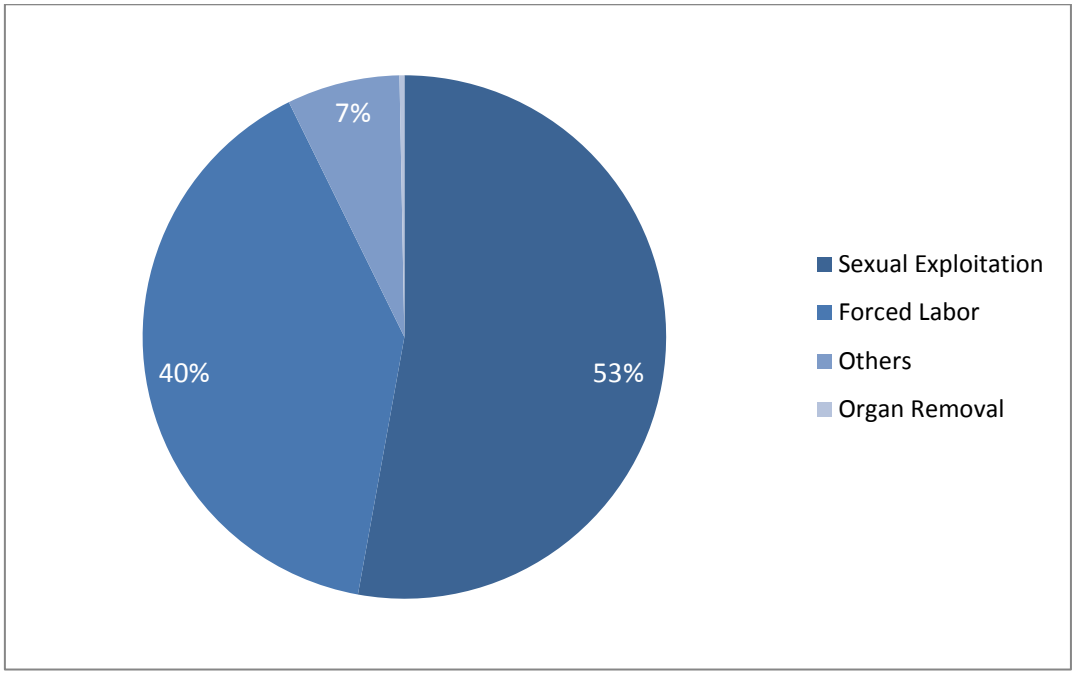
a. Form of exploitation

Trafficked victims are typically exploited sexually or through forced labour. Once again, it is important to note that the covert nature of human trafficking makes it difficult to provide reliable estimates. Ideally, various methodologies would produce similar results, but this is often not the case (Dank et al., 2014). For example, the ILO and UNODC produce different estimates as a result of using different sources of data. The UNODC focuses on government reports and government reporting, and the ILO focuses first on media reports, but also includes reports from (in decreasing order of frequency) NGOs, governments, international organisations, academia, the ILO, trade unions and employer organisations (UNODC, 2014).

The ILO estimates that of the 20.9 million people in forced labour, 18.7 million (90%) are exploited by private entities. Of the 18.7 million exploited by private entities, 4.5 million (22%) are sexually exploited and 14.2 million (68%) are exploited in other forced labour activities (e.g. agriculture, domestic work and manufacturing industries). The other 2.2 million (10%) are exploited by a state or political entity whose living and or working conditions the ILO deems substandard. These include certain work prisons, forced state military work or forced work with rebel groups (ILO, 2012).

The UNODC estimates that 53% of detected trafficked victims are sexually exploited, while 40% are exploited in forced labour activities. However, it also contends that the percentage of reported forced labour trafficking cases is trending up, rising from 32% of reported trafficking cases in 2007 to 40% in 2011 (UNODC, 2014).

Figure 2.1. Forms of exploitation among all detected trafficking victims worldwide (2011)

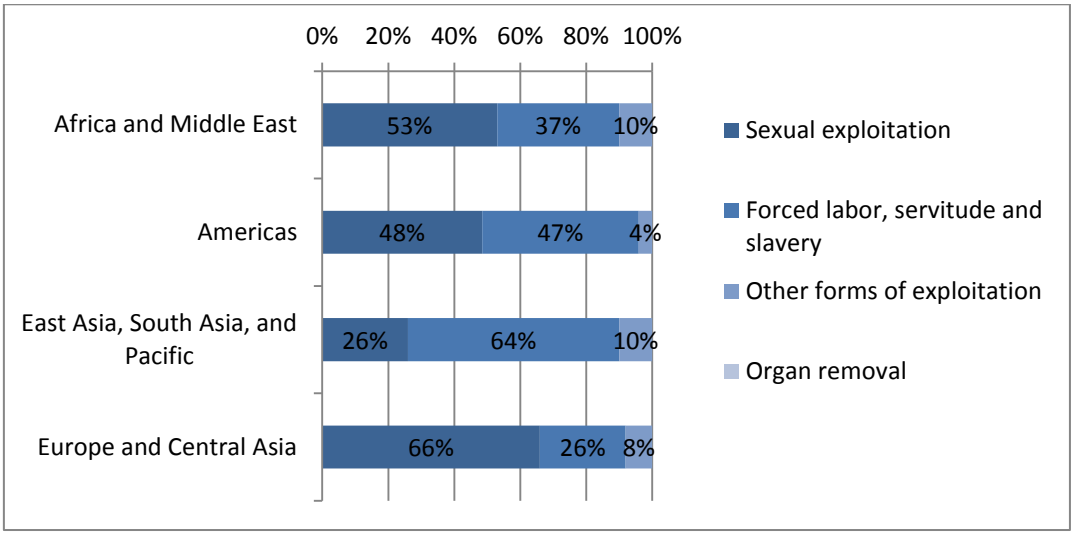


Source: UNODC (2012), *Global Report on Trafficking in Persons 2012*, United Nations, New York, www.unodc.org/documents/data-and-analysis/glotip/Trafficking_in_Persons_2012_web.pdf.

In addition to sexual exploitation, forced labour and organ removal, ten other forms of trafficking are often differentiated and reported by national authorities. These include trafficking for: mixed exploitation in forced labour and sexual exploitation; committing crimes; begging; pornography (including internet pornography); forced marriages; benefit fraud; sale of infants or children; illegal adoption; armed combat; and for rituals (UNODC, 2014).

The percentages of different types of trafficking vary by region and by percentage of child exploitation.

Figure 2.2. Forms of exploitation among detected trafficking victims, by region (2010-2012 or more recent)

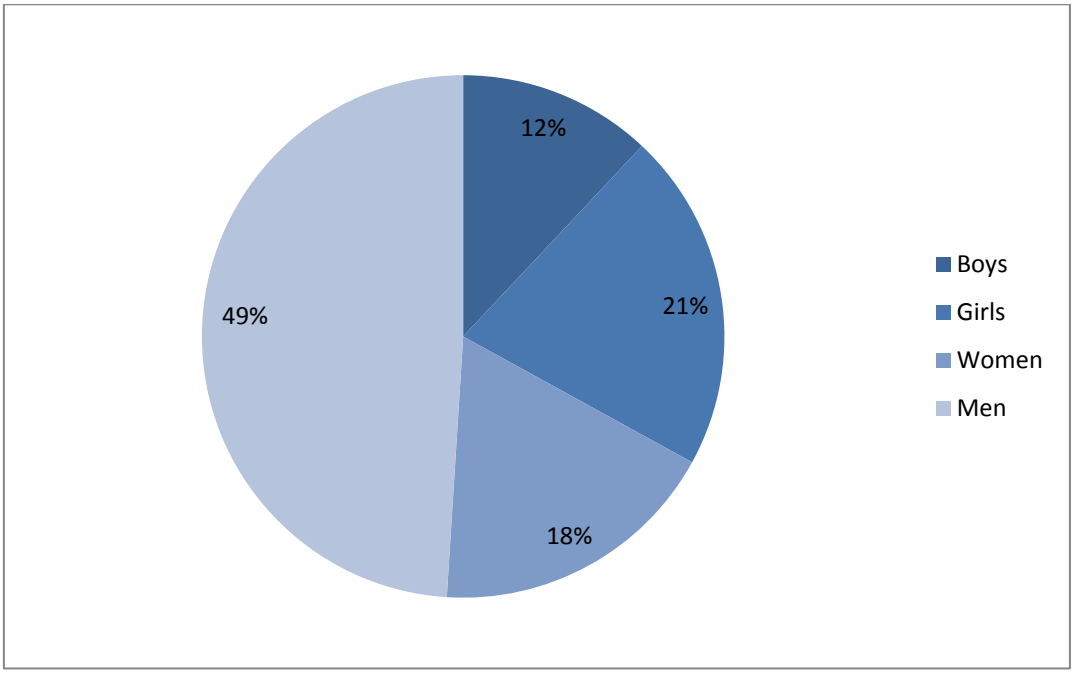


Source: UNODC (2012), *Global Report on Trafficking in Persons 2012*, United Nations, New York, p.34, www.unodc.org/documents/data-and-analysis/glotip/Trafficking_in_Persons_2012_web.pdf.

b. Profile of victims

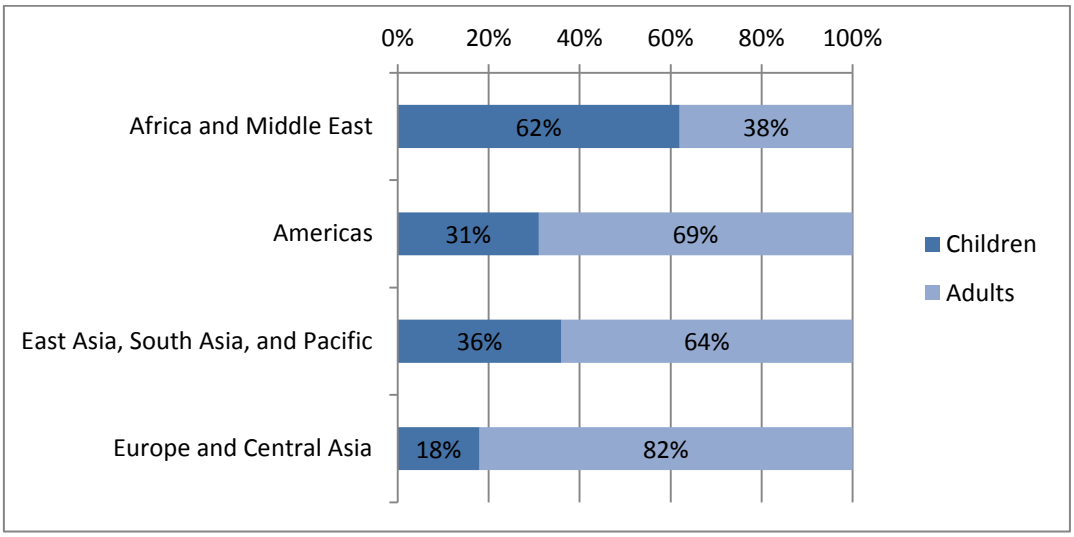
The gender and age of victims is often used to categorise human trafficking (e.g. trafficking in women, men or children). The most frequently detected group of trafficking victims is adult women. While the global percentage for this group has dropped, it is being overtaken by trafficking in girls under the age of 18 (UNODC, 2014). Note: the figure below, based on UNODC data, illustrates a significant difference with ILO data in terms of the proportion of women trafficked to men. The ILO contends that the proportions are closer to 55% women and girls and 45% men and boys, as opposed to the 70% of women and girls and 30% of men and boys shown below (ILO, 2012).

Figure 2.3. Gender and age profile of trafficking victims detected globally (2011)



Source: UNODC (2012), *Global Report on Trafficking in Persons 2012*, New York, p.29 www.unodc.org/documents/data-and-analysis/glotip/Trafficking_in_Persons_2012_web.pdf.

Figure 2.4. Percentages of children and adults among the detected victims of trafficking in persons, (2010-2012)



Source: UNODC (2012), *Global Report on Trafficking in Persons 2012*. United Nations, New York, p.31 http://www.unodc.org/documents/data-and-analysis/glotip/Trafficking_in_Persons_2012_web.pdf.

Trafficking in men is often not detected as frequently as trafficking in women, and men are often treated differently from their female counterparts. In recent years, however,

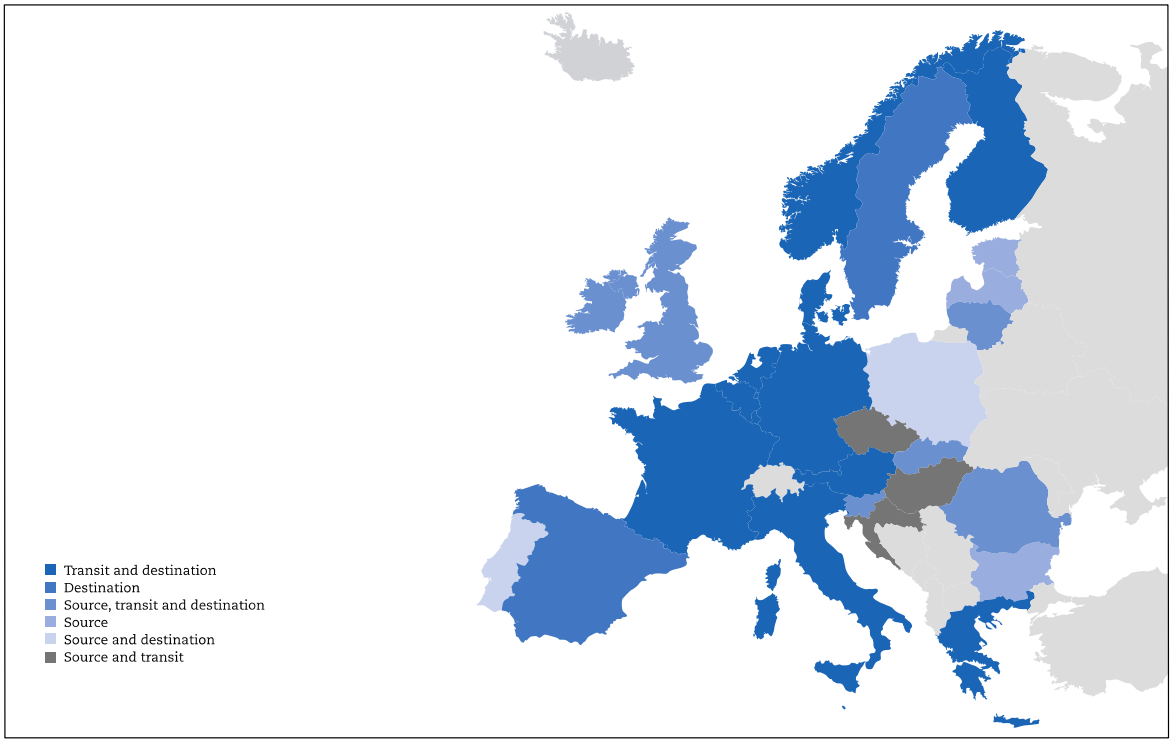
a greater number of male trafficking cases have been detected, suggesting a possible increase in the knowledge of trafficking by those likely to uncover it (e.g. police, NGO workers, investigative reporters) (Zingerle and Dzhamalis, 2014).

c. Type of countries

Trafficking in persons is also categorised by country (e.g. origin, transit and/or destination country). Each of these categories may be present in most countries, although the distribution in the trafficking flows varies by country (U.S. Department of State, 2014).

In a 2012 Eurojust report, countries were asked whether they consider themselves an origin, transit or destination country. Few countries considered themselves to represent only one type of trafficking, and the majority identified themselves as a combination of different types. Most considered themselves transit and or destination countries, few considering themselves origin countries.

Figure 2.5. Map of selected European countries and territories indicating whether they are predominantly a location of origin, transit or destination of human trafficking



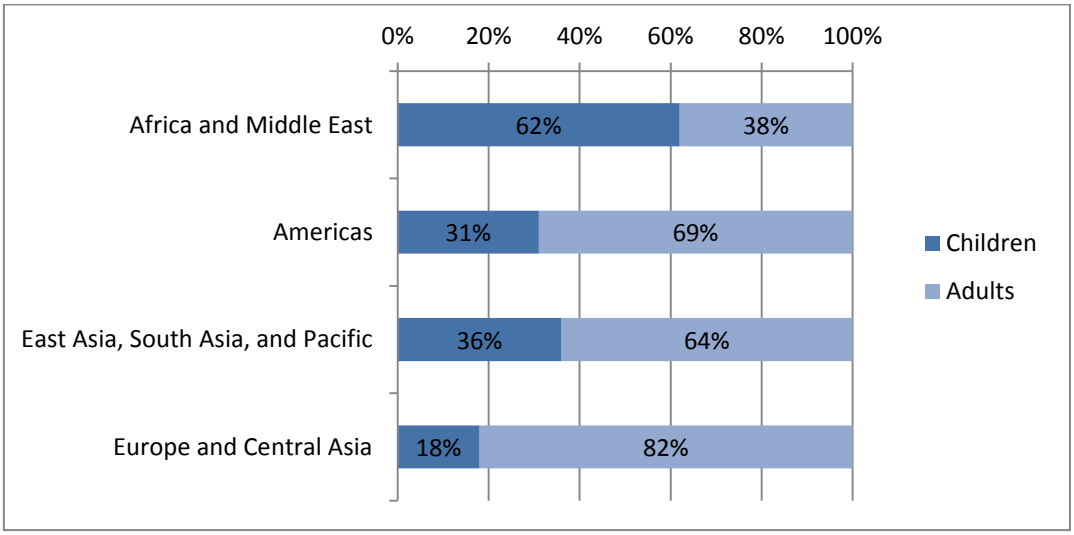
Source: Eurojust (2012), *Strategic Project on Eurojust's Action against Trafficking in Human Beings*, October, www.eurojust.europa.eu/doclibrary/Eurojustframework/Casework/Eurojust%20action%20against%20trafficking%20in%20human%20beings%20(October%202012)/THB-report-2012-10-18-EN.pdf.

Flows and hubs of trafficking in persons

Trafficking victims of 152 nationalities were detected in 124 countries worldwide from 2010 to 2012. During the same period, at least 510 distinct trafficking flows were identified. Trafficking "flows" are defined as groups of at least five detected victims being transported from one origin country to one destination country. They also include domestic trafficking, in which the origin and destination country are the same (UNODC, 2014).

Trafficked persons tend to flow from poorer regions to richer regions and from conflict regions to more stable regions. This holds true with domestic, intra-regional and trans-regional trafficking. Given the increased complexity of trafficking individuals trans-regionally (e.g. international transportation, local transportation, lodging and supervision), the majority of trafficked cases tend to occur locally, i.e. domestically or within the same sub-region. Approximately 66% of all detected victims are trafficked across borders (UNODC, 2014). However, cross-border trafficking involves more choke points (e.g. airports, seaports, border checkpoints), which make it easier to detect trafficking cases. These numbers must be interpreted with caution, since detecting domestic trafficking cases is often more difficult.

Figure 2.6. Breakdown of trafficking flows by geographical reach (2010-2012 or more recent)



Source: UNODC, *Global Report on Trafficking in Persons 2012*, United Nations, New York, p.29 www.unodc.org/documents/data-and-analysis/glotip/Trafficking_in_Persons_2012_web.pdf.

Regional differences are significant. On the one hand, in East Asia and the Pacific, Eastern Europe and Central Asia, South Asia, sub-Saharan Africa and South America, between 94%-99% of the detected victims originate from within their respective region or country (1%-6% originate from outside their respective regions). In North America, Central America and the Caribbean as well as Western and Central Europe between 58%-61% of detected victims originate from within their respective sub-region or country (39%-42% originate from outside their respective sub-region). Only in the sub-regions of North Africa and the Middle East do fewer detected victims originate from within the

sub-region compared to outside the region. In these regions, 32% of all detected victims originate from within, while 68% originate from outside the sub-region (UNODC, 2014).

According to the United Nations data, the Middle East is largely a destination region, with more inbound trafficking than any other region in the world. The Middle East and North Africa have also become an important source of victims of human smuggling and trafficking since the violence that followed the Arab Spring. East Asia (especially Southeast Asia) is largely the source region, with victims detected in more countries worldwide than any other region. Other major source regions include South Asia, sub-Saharan Africa and South America (UNODC, 2014).

Eastern Europe and Central Asia are also large source regions, but, unlike East Asia, whose victims are often found worldwide, victims from Eastern Europe and Central Asia are typically found within the broader region of Europe and Central Asia. This suggests that Eastern Europe and Central Asia are significant source regions for Western Europe (UNODC, 2014).

The most frequently mentioned source countries in Europe by other European countries are listed in Table 2.1:

Table 2.1. Most frequently mentioned source countries of trafficking victims in selected European countries

Country	Times mentioned
Romania	16
Nigeria	13
Bulgaria	9
China (People's Republic of)	8
Ukraine	7
Russia	6
Brazil	4
Viet Nam	4
Albania	3
Thailand	3
Hungary	3
Belarus	3
Estonia	3

Source: Eurojust (2012), *Strategic Project on Eurojust's Action against Trafficking in Human Beings*, www.eurojust.europa.eu/doclibrary/Eurojust-framework/Casework/Eurojust_action_against_trafficking_in human beings (October 2012)/THB-report-2012-10-18-EN.pdf.

Table 2.1 gives only a partial picture of the situation in Europe today. Many source countries for Europe are former European colonies (e.g. Morocco and Algeria in North Africa; Brazil, the Dominican Republic and Columbia in Latin America). The Arab Spring also increased migration flows from North Africa to Western Europe, as many sub-Saharan Africans working in North Africa began to leave for Europe (Shelley, 2014).

Europe's main sources of child trafficking are Eastern Europe, North Africa and Asia, while others are trafficked from the Middle East and the Indian subcontinent through Turkey and the Balkans (UNICEF and Innocenti Research Centre, 2008). South America is not a major source of child trafficking to Europe. This is likely to be due to the distance

and difficulty of trans-regional logistics across oceans and additional choke points of detection, by comparison with domestic and sub-regional distances and detection points.

Consequences of human trafficking

The covert nature of human trafficking makes it difficult to assess the full impact it has on society (Dixon, 2008). Its consequences and costs emerge at the individual, community, national, regional and global levels. It affects source, transit and destination countries; democratic, transitional and authoritarian regimes; and countries in conflict. Trafficking undermines states' control over their borders and over who lives in their country (Shelley, 2010).

The economic and labour consequences in destination countries include depressed salaries; poor working conditions; increased work injuries; economic development based on trafficking (e.g. sex tourism); increased income inequality; an expansion of the illicit economy; a drain on the resources used for prevention, prosecution and punishment of offenders and treatment and support of victims; diversion of the economic benefits of the victims' labour from them and their, families, communities and governments to criminals and corrupt officials; loss of remittances to the source country; reduced foreign investment; and so on (Dixon, 2008).

Macro-economic trends appear to affect human trafficking. In many countries, a correlation has been observed between a rise in unemployment in a given country and the number of reports about victims of human trafficking from those countries. The worsening economy in Russia has been accompanied by an increase in trafficking from Central Asia, as well as the departure of migrants back to their source countries. Other studies found that a decrease in unemployment rates in Russia and the Ukraine was correlated with a reduction in the number of Russian and Ukrainian victims detected in the Netherlands. The same correlation was found in relation to a decrease in Thailand's unemployment rate and a decrease in Thai victims detected in Germany, as well as a decrease in Indonesia's unemployment rate and a decrease in the number of Indonesian victims detected in Japan. An increase in Russia's GDP per capita was correlated with a decrease in Russian victims detected in Germany. The same correlation was found in relation to Lithuanian GDP per capita and the detection of Lithuanian victims in Germany. Finally, an increase in unemployment rates in Hungary was correlated with an increase in Hungarian victims detected in the Netherlands. The same correlation was found in relation to an increase in the unemployment rate in Bulgaria and an increase in Bulgarian victims detected in the Netherlands (UNODC, 2012).

Individual consequences include physical and psychological abuse and scarring; death; torture; education foregone at a crucial age; inability to fully function in society as an adult; inability to marry and/or have children; stigmatisation by the community; increased debt; disease; forced marriage; suicide; food and sleep deprivation; and being forced to kill family members (Shelley, 2014).

Family consequences include traumatised family members of victims; familial bonds broken due to family members trafficking other family members; and financial losses to smugglers who betrayed the victims and their families (Shelley, 2014).

Social consequences include increased discrimination against members of ethnic minorities trafficked into a new society; increased violence due to discrimination; loss of child-bearing women and young men; abduction of children as soldiers; medical expenses

paid by the state; and introduction of counterfeit goods into the licit economy (Shelley, 2014).

Political consequences include undermining of the rule of law; increased corruption that facilitates the trafficking; providing funds to warring parties, which increases conflict; decreased stability; national security threats; reduction in human rights and freedoms; and funding insurgents and terrorists, which undermines political stability (Shelley, 2014).

Health consequences include death, illness and disease; hazardous work conditions; psychological damage; mental health issues; flashbacks; suicidal tendencies; drug addiction; unwanted pregnancies and forced abortions; broken and surgically removed limbs to increase income from begging; dehydration; and organ removal (WHO, 2013).

Convergence with different forms of trafficking and transnational organised crime

Trafficking in persons is linked to multiple other crimes, such as kidnapping, fraud, document forgery, assault, rape, false imprisonment, breaking immigration and border laws, corruption of government officials, money laundering and tax evasion (Aronowitz, 2009).

Corruption contributes to all phases of trafficking. It aids recruitment by allowing traffickers to operate sham and unauthorised recruitment agencies. It facilitates transport and transfer by allowing traffickers to use fake documents, issuing visas to unqualified individuals, and evading inspections of vehicles, documents and people. It aids the harbouring and receipt of people by allowing traffickers to obtain fake work permits and birth certificates and to continue to operate businesses of exploitation (APEC, 2013).

Transnational organised crime groups involved in trafficking are organised in various ways. Some are large, pyramidal structures such as the Japanese Yakuza and other Asian groups, but most are decentralised structures with loose associations in which different groups specialise in particular areas. For example, some may specialise in recruitment, others in transport or forged documents. These various groups employ not only criminals, but formerly trafficked victims, to recruit others; military and law enforcement personnel and border guards for protection against arrest, help in maintaining the victims, and ease of transport; border guards, travel agents for ease in transport and communication between recruiters, transporters and receivers of victims; nightclub owners for the receipt, holding, display and sale of victims; judges, lawyers and government officials for protection against prosecution; doctors to attend to the victims' diseases, physical and sexual assaults and help them recover enough to become marketable again, lawyers, government officials and others. It is often difficult to detect how closely associated individuals are with a network, what level of knowledge they have about the operation, and in turn, whether they are technically part of the organised crime group. For example, some associations may involve long-term friendships, while others are one-time business transactions.

Criminal and terrorist organisations have diversified beyond the drug trade and into human trafficking. The two trades naturally intersect with each other, and drugs are used to recruit, retain and exploit victims. Victims may also be forced to act as drug couriers while then are being transported (Shelley, 2012).

Transnational organised crime groups have been observed to force victims onto fishing boats, where they are forced to perform other criminal acts, e.g. drug trafficking, human trafficking, weapons trafficking, acts of terrorism, illegal fishing, environmental crimes and so on (UNODC, 2011).

Responses to trafficking in persons

Prevention, protection and prosecution (or the 3P paradigm) serve as the basis of societies' response to trafficking in persons. The 3P Anti-trafficking Policy Index measures the 3P paradigm for 188 countries, using a 1-5 scale for each category (1 representing the lowest level of policy performance and 5 representing the highest). The overall scale then ranges from 1-15. In 2013, only two countries received a perfect score of 15, Spain and Poland. Conversely, the Syrian Arab Republic (hereafter "Syria") and the Democratic People's Republic of Korea received the lowest score of 1 for each of the three policy areas, for a total score of 3 (Cho, 2014).

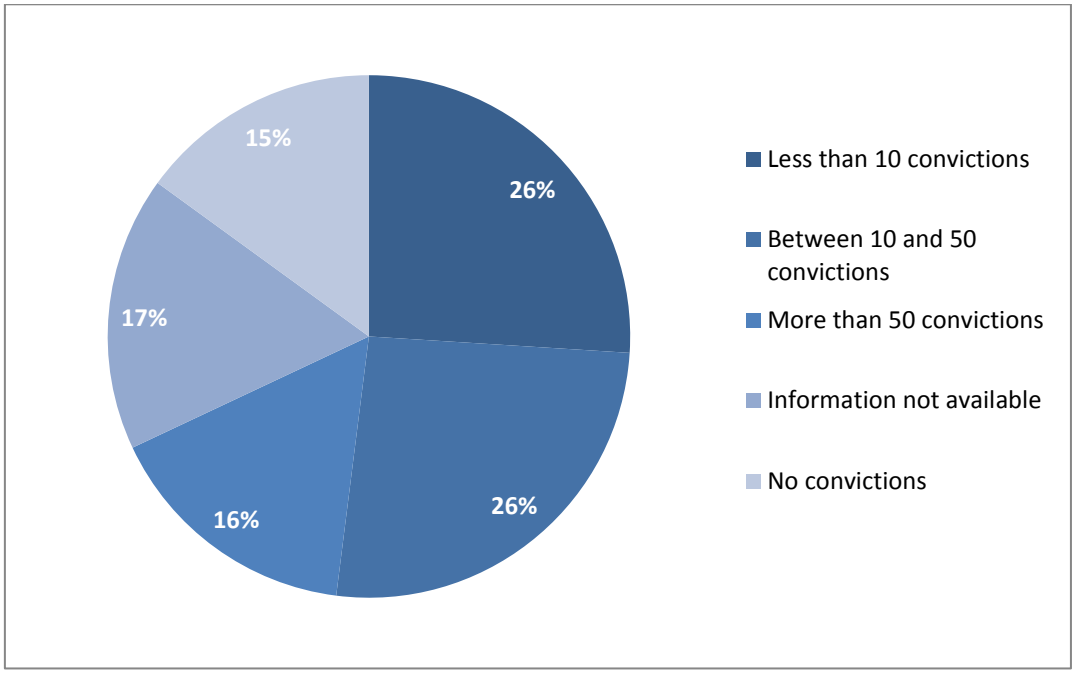
North America, as well as Europe and Central Asia, taken together, are the most advanced regions in implementing the 3P paradigm, with average score of 12.67 and 11.79 respectively. Oceania, the Middle East and Africa are the worst-performing regions, with an average respective score of 7.36, 8.26 and 8.37 (Cho, 2014).

Legislative responses include countries that have adopted statutes that specifically criminalise trafficking in persons. Whereas in 2003, only 42% of countries worldwide had such a statute, by 2014, 95% of countries had criminalised human trafficking, of which 85% criminalised all aspects of trafficking, as specified in the UN Trafficking in Persons Protocol. Africa and the Middle East are the regions most in need of strengthening their legislation (United Nations, 2004).

The response of the criminal justice systems in the majority of countries has been a relatively consistent and discouraging trend of very low rates of conviction, especially given the apparent scale of the issue. Adequate legislation has not yet resulted in increased prosecution and conviction of traffickers (United Nations, 2004). Globally, the number of trafficking operators is not known but, it is estimated that on average, 45% of individuals investigated or suspected by law enforcement as being traffickers are prosecuted. Of that 45%, 53% are eventually convicted. In other words, the global first-instance conviction rate of traffickers is roughly 24%: about every 1 in 4 potential traffickers investigated is actually convicted (UNODC, 2014).

The Western and Central Europe region has a high first-instance prosecution and conviction rate, with about 60% of individuals investigated or suspected by law enforcement as being traffickers being prosecuted. Of that 60%, 50% are eventually convicted. In other words, Western and Central Europe's first-instance conviction rate of traffickers is about 30% or about 1 in 3. The Western Hemisphere has a first-instance prosecution rate of 25%. Of the 25% prosecuted, 40% are eventually convicted. In other words, the Western Hemisphere's first-instance conviction rate of traffickers is about 10% or about 1 in 10. The United Arab Emirates and Israel report similar first-instance conviction rates at around 40% (UNODC, 2014).

Figure 2.7. Number of convictions recorded per year, percentage of countries/territories (2010-2012)



Source: UNODC (2012), *Global Report on Trafficking in Persons 2012*, United Nations, New York, p.29, www.unodc.org/documents/data-and-analysis/glotip/Trafficking_in_Persons_2012_web.pdf.

Demand responses focus on the demand from consumers, employers and business owners for cheap labour, cheap consumer goods and services, and sex services. Educating societies about the consequences of human trafficking and their connection to it helps expose the hidden nature of the activity and create an educated consumer and employer (ICAT, 2014).

Conclusion

The consequences of trafficking in persons to the individual, community, national, regional and global levels are enormous. The adoption of legislation criminalising the trade has been successful in the past ten years; however, implementation of the laws to prevent, protect and prosecute offenders is lagging far behind. Greater focus and resources are needed to implement the laws. This often begins with addressing the issue of corruption. There are strong connections between trafficking in persons and various other crimes, in particular the links with organised criminal groups and corrupt government employees.

Annex 2.1[1]

Methodology on measuring the underground commercial sex economy

Three different international organizations gather data on the number of trafficked persons but little research has been conducted to estimate the economic value of human trafficking. There is a gap in current research concerning the valuation of human trafficking markets around the world, which if filled, would benefit policy-makers in making informed decisions to counteract trafficking in persons. The ILO appraisal of 2.5 million trafficked labourers led to an estimate of USD 31.6 billion in global profits from human trafficking. Although this tentative estimate already shed some light on the scale of this illicit activity the results of the study have become outdated; the estimation of 2.5 million people trafficked around the world dates back to 2005. Various other efforts to estimate the economic value of human trafficking do not clearly state their calculation methodology or rely heavily on anecdotal evidence to derive their economic valuation.

Due to the above mentioned lack of empirical measures, the Urban Institute developed a rigorous approach to help evaluate the value of a major market segment in human trafficking- the underground commercial sex industry (Dank, M. et al. 2014). Unlike other approaches to estimating illegal activities, the methodology does not depend on prevalence estimates. The research design appraises the size of the underground commercial sex economy in seven major urban areas of the United States using qualitative as well as quantitative data. Data sources for their report include individual interviews with all stakeholders involved in the illicit activities (law enforcement agencies, convicted sex traffickers and sex workers) and eight different national datasets. Seven cities were chosen: Atlanta, Dallas, Denver, Miami, San Diego, Seattle and Washington DC, based on such factors as size, number of convictions of human trafficking, expert recommendations, existence of a federally funded human trafficking task force, cooperativeness of local law enforcement institutions, availability of data, geographic location and reputation for holding « pimp circuits ». Two time periods were chosen (2003 and 2007). The time periods were chosen to maximize the number of computable proxy ratios of collected sex industry data.

The assumption behind this methodology is that sufficient relative information describing illegal markets across time and regions can give indications about the absolute value of the market. For that, proxy variables that linearly capture the extent of illegal activities are collected in order to provide enough relative information to infer absolute sizes. Formally this is done by setting up a simultaneous linear system of equations along with additional constraint equations that describe relative relationships of illegal markets across time and regions. Eventually, a unique solution for the monetary value of the illegal industry is determined by minimizing discrepancies over the feasible set of solutions.

At first, a "Law of Cash Conservation" is postulated which describes the position of fiat money within dynamically stable systems over finite time intervals. Equation (1) formally states this "Law of Cash Conservation":

$$z(c,t) = s(c,t) + d(c,t) + w(c,t) + o(c,t) \quad (1)$$

This equation holds for a given closed region and a defined time interval. It states that the total value of all cash exchanged ($z(c,t)$) as part of commercial transactions for region c and time t equals all the total cash exchanged towards the purchase of underground commercial sex ($s(c,t)$), drugs ($d(c,t)$), guns ($g(c,t)$) and all other exchanges of cash for goods and services ($o(c,t)$) in region c and time t. This tautological statement implies that all cash flows can be unambiguously characterized to either one of the four proposed categories and that that they are in a state of dynamic equilibrium within region c and during $[t, t+\delta)$. The monetary size of each sector is described by s, d, w and o.

Applied to n regions and m time intervals, this conservation law yields $L(n,m)$, a simultaneous linear system of equations that describes underground the sex, drug and weapons economies in n disjoint regions and m disjoint time intervals.

$$L(n,m) \stackrel{\text{def}}{=} \{ z(c_i,t_j) = s(c_i,t_j) + d(c_i,t_j) + w(c_i,t_j) + o(c_i,t_j) | i = 0,1,\dots,n-1; j = 0,1,\dots,m-1 \tag{2}$$

Notably, nm linear equations cannot uniquely determine $5nm$ unknown variables; the system is underspecified and therefore needs additional constraints to uniquely determine the variables that describe the illegal sex, drug and weapons economy sizes. This is where proxies for the sex, drugs, weapons and total industry are used to serve as additional constraints for the linear programme. Additional constraints are specified as proxy ratios across two geographical regions and two time periods. The construction of cross-city and cross-time proxy ratios which serve as additional constraints relies on the assumption that there exists a linear relationship between the proxy and the real variable. For instance, it means for the sex industry, where $s^*(c_i,t_j)$ represents the proxy variable:

$$\frac{s^*(c_i,t_j)}{s^*(c_j,t_k)} \approx \frac{s(c_i,t_j)}{s(c_j,t_k)} \; and \; \frac{s^*(c_i,t_j)}{s^*(c_h,t_j)} \approx \frac{s(c_i,t_j)}{s(c_h,t_k)} \tag{3}$$

Linear Proxy $s^*(c_i,t_j)$:

The suggested proxy for the size of the underground sex industry is defined as the mean weekly gross cash intake per pimp:

$$s^*(c_j,t_j) \stackrel{\text{def}}{=} I(c_j,t_j) \times G(c_j) \tag{4}$$

109 interviews with convicted pimps and sex workers were conducted to quantify $I(c_j,t_j)$, the mean weekly gross cash intake per pimp in region c and time t. Surveyed participants working in the underground sex industry were denoted p_k. The estimation of pimp size in a specific region, $G(c_j)$, is less straight-forward considering that extrapolating the percentage of surveyed pimps and sex workers that have worked or deemed region c_i as "home-city" to the whole city captures two biases; one pertaining to the effectiveness of law enforcement and the other associated with costs of travelling when working in other cities. To control this enforcement and distance related biases Newton's Gravity Model is applied on the survey data to estimate $G(c_j)$. This implies that sex workers are attracted to work in a city other than their "home-city" depending on their own willingness, the "mass" of the city c_i and the distance between city c_i and "home". The sex workers willingness to work in multiple cities is defined as $M(p_k)$. The "mass" of the city c_i is the city's ability to attract sex workers and therefore can act as a proxy for

pimp size, $G(c_j)$. It is denoted as $M(c_i)$. According to the Gravity Model, this attraction to work in a "non-home" city, A_{ik}, is defined as follows:

$$A_{ik} \propto \frac{M(p_k) \times M(c_i)}{d(h(p_k), c_i)^{\lambda}} \tag{5}$$

The attraction force between sex worker participant p_k and city c_i is proportional to $M(p_k)$ and $M(c_i)$ and is inversely proportional to the inter-city distances, $d(h(p_k), c_i)$. The propensity of pimps to work in multiple cities is measured as the absolute number of non-home cities that a participant has worked in which is identified from survey data. The authors seek to estimate $M(c_i)$ through a standard logistic regression to find proxies of pimp sizes in each city c_i. The standard logistic regression modelled city indicator variables, inter-city distances, and the total number of non-home cities that a participant worked in as explanatory variables for the participants' choice to work in city c_i. The adjusted coefficients of city indicators yield the "mass" estimates for cities. After normalizing the city "mass" estimates by their median, the proxy for relative pimp population size is obtained which is then be plugged into equation (4). This results in the final proxy values for $s^*(c_j, t_j)$ that is used to set up constraint equations.

Linear proxies $d^*(c_i, t_j), w^*(c_i, t_j)$ and $o^*(c_i, t_j)$:

In contrast to the sex industry, multiple proxies are utilized to create proxy ratios for the remaining three sectors. Regarding the drug industry, seven different proxy variables for the years 2000 to 2010 and for all 7 cities were aggregated to create the final values for $d^*(c_i, t_j)$. The authors used a simple linear regression model to aggregate all 7 different proxies into one single $d^*(c_i, t_j)$ for each city c_i and time t_j. As all the proxies are measured in different units all variables are normalized by the city-year with the most complete data. The following linear model was estimated for each city:

$$\tilde{d}_{it}^{k} = \alpha_i + \beta_i t \tag{6}$$

$\tilde{d}_{it}^{k}$ pertains to the normalized proxy variable and t accounts for the respective time trends. The fitted values of the regression yield the values for $d^*(c_i, t_j)$. The same methodology was applied to the remaining two industries.

Estimating total cash in circulation $z(c_i, t_j)$:

As city-level currency data is not publicly available, estimates for total currency in circulation on city-level, $z(c_i, t_j)$, had to be derived from the average national currency-GDP ratio between 2000 and 2012:

$$CityCurrency_{it} = \left(\frac{NationalCurrency}{NationalGDP}\right) \times CityGDP_{it} \tag{7}$$

Despite its simple concept, these estimates do not differ significantly to regression estimates that also control for variation over time and economic conditions.

Solving the linear programme:

The system of linear nm equations is solved under constraint equations entailing cross-city and cross-time proxy ratios of $s^*(c_i, t_j)$, $d^*(c_i, t_j)$, $w^*(c_i, t_j)$ and $o^*(c_i, t_j)$ as shown in equation (3). To account for inaccuracy in proxy estimators, they authors

introduced a slack margin of 20 percent for sex proxies and of 1 percent for all other proxies. The constraint equations for the sex industry, for example, are as follows:

Constraint equations across cities	*Constraint equations across time*
$\frac{s(c_i,t_j)}{s(c_h,t_j)} > (1-\epsilon_s)\frac{s^*(c_i,t_j)}{s^*(c_h,t_j)}$	$\frac{s(c_i,t_j)}{s(c_i,t_k)} > (1-\epsilon_s)\frac{s^*(c_i,t_j)}{s^*(c_i,t_k)}$
$\frac{s(c_i,t_j)}{s(c_h,t_j)} < (1+\epsilon_s)\frac{s^*(c_i,t_j)}{s^*(c_h,t_j)}$	$\frac{s(c_i,t_j)}{s(c_i,t_k)} < (1+\epsilon_s)\frac{s^*(c_i,t_j)}{s^*(c_i,t_k)}$

(8)

Furthermore, it is assumed that each industry must contain at least 0.1 percent of all currency in that region and timeframe. The resulting linear programme, $L(n,m)$, including its constraint inequalities describes a feasible set of solutions that can determine the unknown variables s, d, w and o. To find a unique solution within this feasible subset, an objective function must be specified that can be minimized over this subset. The objective function is defined as the average relative divergence from the conservation law. By minimizing the objective function within the feasible set of solutions, a unique solution point is found that minimizes the absolute normalized discrepancies to the Law of Conservation. Finally, the Mixed Integer Linear Programming solver by Michel Berkelaar, lp_solve, is utilized to solve this linear program which yields solutions for $s(c_i,t_j)$, $\mathrm{d}(c_i,t_j)$, $\mathrm{w}(c_i,t_j)$ and $\mathrm{o}(c_i,t_j)$ for all cities and time periods that were previously defined. The values obtained from for $s(c_i,t_j)$ represent the monetary value of the underground sex economy.

Limitations of the methodology

As the solution of the linear programme relies mainly on proxy data weaknesses of the methodology lay in the accuracy of the proxies. Depending on the availability of surveys and other main economic indicators this methodology might not be suitable for some countries as this approach necessitates a large amount of different datasets over different time periods and regions.

Notes

[1] This Annex, prepared by Ms. Melissa Li of the OECD Secretariat, summarises the methodology used in the Urban Institute report on measuring the underground commercial sex economy.

References

APEC (2013), "Chair's Summary", in *APEC Pathfinder Dialogue with ASEAN & PIF Partners*, Asia-Pacific Economic Cooperation, Bangkok, Thailand, www.apec.org/~/media/Files/Groups/ACT/20131027_PathfinderDialogue_ChairsSummary_FINAL.pdf.

Aronowitz, A. (2009), *Human Trafficking, Human Misery: The Global Trade in Human Beings*, Greenwood Publishing Group, Westport, CT.

Belser, P. (2005), *Forced Labour and Human Trafficking: Estimating the Profits*, International Labour Organization, Geneva.

Cho, Seo-Young (2014), *3P Anti-Trafficking Policy Index 2013 Report*, University of Marburg, Germany, www.economics-human-trafficking.net/mediapool/99/998280/data/3P_Index_2013_Report_1_.pdf.

Dank, M. et al. (2014), *Estimating the Size and Structure of the Underground Commercial Sex Economy in Eight Major US Cities*, The Urban Institute, Washington DC, www.urban.org/UploadedPDF/413047-Underground-Commercial-Sex-Economy.pdf.

Dixon, J. (2008), "The impact of trafficking in persons" in *An Introduction to Human Trafficking: Vulnerability, Impact and Action*, United Nations Office on Drugs and Crime, New York, www.unodc.org/documents/human-trafficking/An_Introduction_to_Human_Trafficking_-_Background_Paper.pdf.

Eurojust (2012), *Strategic Project on Eurojust's Action against Trafficking in Human Beings*. Eurojust, The Hague, www.eurojust.europa.eu/doclibrary/Eurojust-framework/Casework/Eurojust_action_against_trafficking_in_human_beings_(October 2012)/THB-report-2012-10-18-EN.pdf.

ICAT (2014), *Preventing Trafficking in Persons by Discouraging Demand*, Inter-Agency Co-ordination Group against Trafficking in Persons, www.ungift.org/doc/knowledgehub/events/ICAT_Demand_paper_-_FINAL.pdf.

ILO (2015), *Forced Labour, Human Trafficking and Slavery*, International Labour Organization, Geneva, www.ilo.org/global/topics/forced-labour/lang--en/index.htm.

ILO (2012), *ILO Global Estimate of Forced Labour: Results and Methodology*, International Labour Organization, Geneva, www.ilo.org/public/libdoc//ilo/2012/470349.pdf.

Kangaspunta, K. (2011), "Trafficking in persons" in Smith. C.J., S. Zhang and R. Barberet (eds.), *Routledge Handbook of International Criminology*, First Edition, Routledge, New York, pp.178-191.

Shelley, L. (2014), *Human Smuggling and Trafficking into Europe: A Comparative Perspective*, Migration Policy Institute, Washington, DC, www.migrationpolicy.org/research/human-smuggling-and-trafficking-europe-comparative-perspective.

Shelley, L. (2012), "The relationship of drug and human trafficking: A global perspective", in *European Journal on Criminal Policy and Research*, Vol. 18/3, doi: 10.1007/s10610-012-9175-1, pp. 241–53.

Shelley, L. (2010), *Human Trafficking: A Global Perspective*, Cambridge University Press, New York.

Smith, C.J. and K. Kangaspunta (2011), "Defining human trafficking and its nuances in a cultural context", in Winterdyk. J., B. Perrin and P. Reichel (eds), *Human Trafficking: Exploring the International Nature, Concerns and Complexities*, First Edition, CRC Press, pp. 1-38.

UNICEF and Innocenti Research Centre (2008), *Child Trafficking in Europe: A Broad Vision to Put Children First*, United Nations Children's Fund, Florence, Italy.

UNODC (2014), *Global Report on Trafficking in Persons 2014*, UNODC, Vienna, www.unodc.org/documents/data-and-analysis/glotip/GLOTIP_2014_full_report.pdf.

UNODC (2012), *Global Report on Trafficking in Persons 2012*, UNODC, Vienna, www.unodc.org/documents/data-and-analysis/glotip/Trafficking_in_Persons_2012_web.pdf.

UNODC (2011), *Transnational Organized Crime in the Fishing Industry*, UNODC, Vienna, www.unodc.org/documents/human-trafficking/Issue_Paper_-_TOC_in_the_Fishing_Industry.pdf.

UNODC (2008), *Toolkit to Combat Trafficking in Persons*, UNODC, Vienna, http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=251020.

United Nations (2004), "Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, Supplementing the United Nations Convention against Transnational Organized Crime," in *United Nations Convention Against Transnational Organized Crime and the Protocols Thereto*, UNODC, Vienna, www.unodc.org/documents/treaties/UNTOC/Publications/TOC Convention/TOCebook-e.pdf.

United States Department of State (2014), *Trafficking in Persons Report 2014*, www.state.gov/j/tip/rls/tiprpt/2014/index.htm.

WHO (2013), *Human Trafficking*, World Health Organization, Geneva, http://apps.who.int/iris/bitstream/10665/77394/1/WHO_RHR_12.42_eng.pdf.

Zingerle, M. and A. Dzhamalis (2014), *Male Victims of Human Trafficking in Austria*, Men's Health Centre MEN/Social Medicine Centre South, Austria, www.men-center.at/typo2013/typo3/fileadmin/resources/downloads/Male_victims_of_human_trafficking_in_Austria.pdf.

Chapter 3

Wildlife trafficking trends in sub-Saharan Africa

By A.J. Clarke and Adriana Babic *

Demand for elephant ivory and rhino horn has driven dramatic growth in illegal wildlife markets in recent years due primarily to a growing consumer base in East Asia. All forms of wildlife trafficking taken together constitute one of the most lucrative forms of illicit trade, according to some estimates, and the sector has more than doubled since 2007. This chapter points to publicly available reports on population declines, trafficking routes and the quantity of wildlife contraband reported. It highlights reports on the geographic hubs and hotspots of wildlife trafficking routes, and argues that monitoring and enforcement in source countries can be effective means to reduce poaching, but capacities are low and need support in the form of training and information systems. It presents the Information Sharing Platform built for the OECD Task Force on Charting Illicit Trade, and encourages stakeholders to join this to reinforce collective action to counter illicit trade in wildlife.

* Thermopylae Sciences + Technology

The opinions expressed and arguments employed in this chapter are those of the author(s) and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

This chapter and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

Similar to many forms of illicit trade, trafficking in endangered wildlife species is a low risk and high reward business. The low rate of detection and arrests emboldens criminal entrepreneurs to enter this illegal market where criminal penalties in many countries are too weak to offset the growing rewards. Massive seizures of ivory have been cited as evidence that organized crime is now involved in exploiting these positive cost/benefit conditions, as the logistical resources required to trade at such scales is beyond the capacity of individuals. Such criminal organisations may exploit existing networks and trafficking routes developed for their illicit activities in trafficking drugs, arms and humans to also move endangered species.

The aim of this chapter is to highlight recent characteristics of wildlife trafficking in sub-Saharan Africa. It first provides background about the recent trends on wildlife population declines, and the quantity of wildlife contraband reported, before pointing to reports on the geographic hubs and hotspots of wildlife trafficking routes. While poaching and wildlife trafficking occurs on every continent, a spike in the scale of poaching the African elephant and black rhino, in particular, calls for action to stem the role of transnational organized crime in these illegal markets, and to develop strategies to counter it before the species are lost to extinction.

The monitoring of wildlife trafficking in sub-Saharan Africa is a daunting undertaking. Governments often have little resource for rangers to protect the stocks of endangered wildlife species in their territories. It is a challenge to patrol expansive tracts of land, and violent confrontation with poachers can regularly occur. It is important to enhance the capacity to map wildlife trafficking routes along a global supply chain, from the poachers to the points of distribution. The CITES treaty established a program for 'monitoring the illegal killing and hunting of elephants' (MIKE) to systematically gather information on poaching and trends in the population of elephants in Africa and Asia. While MIKE is primarily a conservation tool to help keep accurate track of numbers, the information could also be used to map poaching activity. A key lesson learned from MIKE is the need to gain the trust and buy-in of local populations to act as an information network that reports the illegal killing of elephant in wildlife non-protected areas.

To combat trafficking, it is not enough map poaching incidents. It is important to empower law enforcement agencies to intervene throughout the supply chain, at land crossings, air and maritime ports, and to equip and train them to use screening technology. It is also important to research the motivations of the various actors along the supply chain, to identify and supply adequate substitutes or fine-tune penalties that alter incentives. Analysis of wildlife seizures and data collected on spatial and temporal trafficking trends can help to inform the design of more effective conservation regimes, including how to improve the allocation of available resources more efficiently and shape law enforcement actions more effectively. The OECD Task Force on Charting Illicit Trade Information Sharing Platform has already begun to aggregate publicly available information sources to map wildlife trafficking hotspots.[1]

Types, quantity and estimated market value of trafficked wildlife

Among the most prominent types of wildlife parts trafficked in sub-Saharan Africa are elephant ivory, rhinoceros horn and bushmeat. Global demand for ivory and especially rhinoceros horn has increased in recent years, primarily due to growing

demand in the People's Republic of China (hereafter "China"), Thailand and Viet Nam (Wittemeyer, G. et al. 2014). Consistently high economic growth in these countries has fuelled consumers to seek the same status goods that only elites could afford previously, such as works of art from ivory and the use of rhino horn in traditional medicine (TRAFFIC, 2013).[2] Wildlife trafficking is now the fifth most lucrative criminal activity, after the global trade in narcotics, arms, counterfeits and humans, and has more than doubled since 2007.

Wildlife products are surprisingly valuable. The cost of ivory depends on the form in which it is sold, though prices as high as USD 2 100 per kilogramme have been reported (Vigne & Martin 2014). Gorillas are valued at USD 400 000, and rhino horns can earn traffickers up to USD 65 000 per kilogramme. While the full extent of the wildlife trafficking industry in Sub-Saharan Africa is unknown, the deleterious effects of poaching on local ecosystems and wildlife populations are gruesomely visible.

In the first decade of the 21st century, a significant increase in elephant poaching and ivory markets began in coastal East African countries including Kenya, United Republic of Tanzania (hereafter "Tanzania") and Mozambique. Endangered wildlife in coastal East Africa includes marine turtles, African elephants, black and white rhinoceroses, great white and whale sharks. Each of these endangered species is targeted for international trade in Asia, due to the growth in demand for ivory and other illegal wildlife products (CITES Secretariat/IUCN/SSC African Elephant Specialist Group/Traffic International 2013).

Illegal wildlife trafficking is facilitated by inadequate enforcement of anti-poaching laws as well as the coastal geography, which makes transporting illegal wildlife easier. With hundreds of miles of coastline and many active ports with limited customs agency resources, law enforcement has great difficulty intercepting the traffickers before large-scale shipments are sent to international markets in Asia. It is impossible for customs and border police to monitor, control, and secure against the modern day volume of illegal trafficking, but the use of advanced technologies can aid such agencies in deterring the flow of illicit trade and smuggling operations (Bau, 2014).[3]

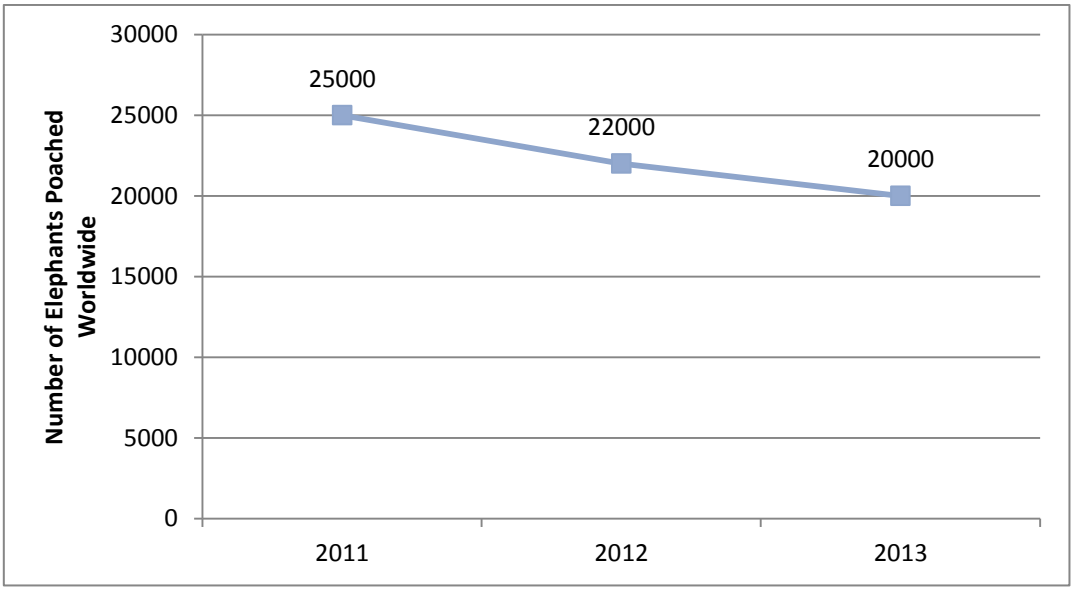
Bushmeat, meat from non-domesticated mammals, reptiles, amphibians and birds, does not receive as much publicity as the more well-known segments of trafficked wildlife parts. This is perhaps due to its relatively localised production, distribution and consumption mainly within African countries close to the ranges where the hunted species live. Bushmeat comes from endangered wildlife such as mountain gorillas, bonobo, chimpanzees and forest elephants, as well as non-threatened species of monkeys and antelope. Bushmeat poaching has depleted the populations of gorillas, chimpanzees and other apes and has also been linked to the spread of infectious disease. The commercial bushmeat trade is the leading cause of wildlife loss in the Congo Basin, which includes Cameroon, the Central African Republic, Democratic Republic of the Congo (the DRC), Equatorial Guinea and Gabon. In the DRC alone, over 1 million tons of bushmeat is consumed each year (Stanford 2014). Since bushmeat is the only profitable export in remote areas of the Congo Basin, it is the primary source of income for many families (World Wildlife Fund n.d.).

Quantifying wildlife poaching and trafficking in sub-Sahara Africa

At the end of 2013, the population of African elephants was estimated at 500 000, a decline of 95% over the last century (Carrington 2014). Even though poaching has been

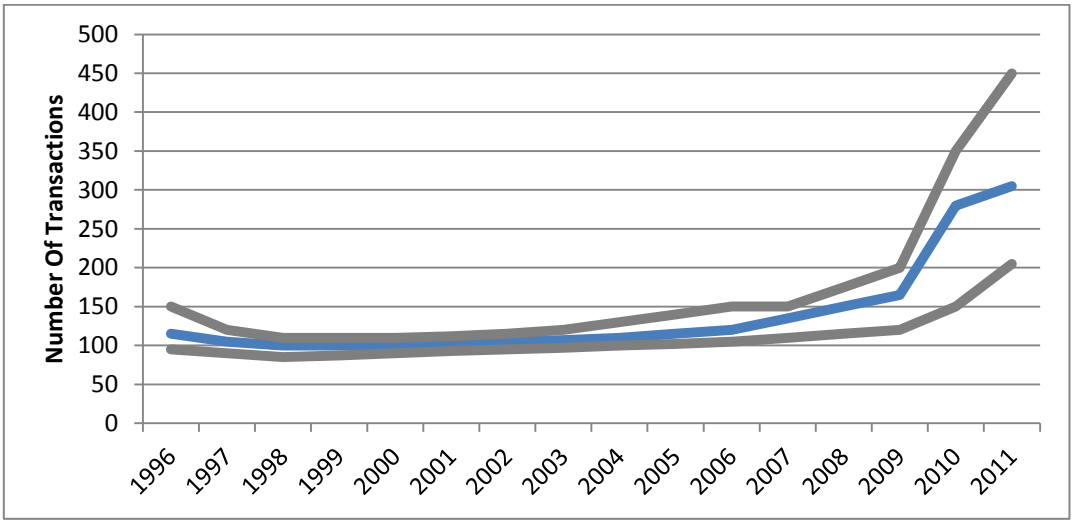
slightly decreased in recent years (see Figure 3.1), the elephant population in Central Africa has declined by 64% in the past decade. In 2013, at least 20 000 elephants were slaughtered worldwide by poachers for their ivory tusks. From 2010 to 2012, poachers killed more than 100 000 African elephants. The number of elephants killed was slightly less than the 22 000 elephants killed in 2012 and the 25 000 poached in 2011. Transactions in ivory had remained at a relatively stable level from 1998-2006, but a sharp increase occurred subsequently in the years leading up to 2011 (Figure 3.2). These numbers do not forebode a sustainable future for elephants.

Figure 3.1. Number of elephants poached worldwide (2011-2013)



Source: Scriber, B. (2014), "100 000 elephants killed by poachers in just three years, landmark analysis finds", National Geographic, 18 August.

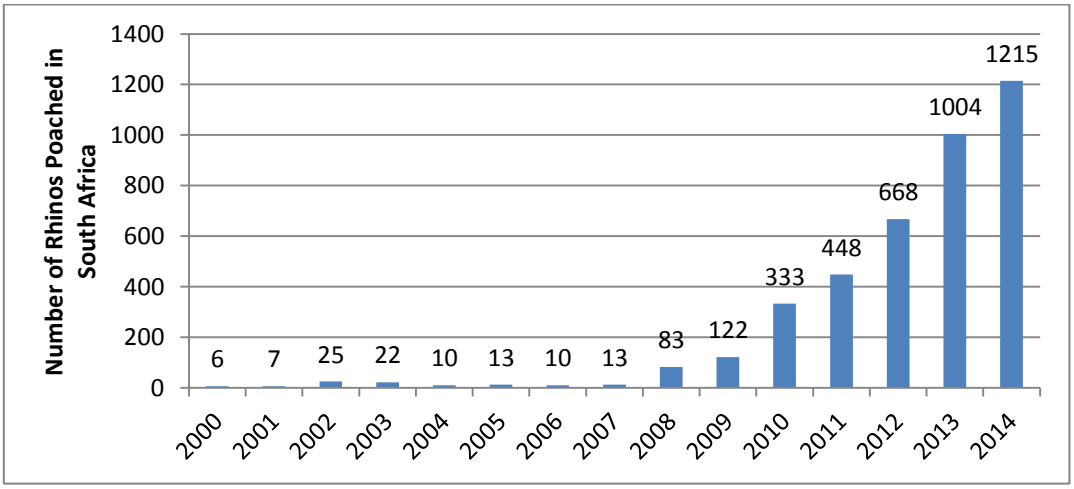
Figure 3.2. Ivory Transaction Index (1996-2010)



Source: Nellemann, C. et al. (2013), Elephants in the Dust: The African Elephant Crisis, Birkeland Trykkeri, Birkeland, Norway.

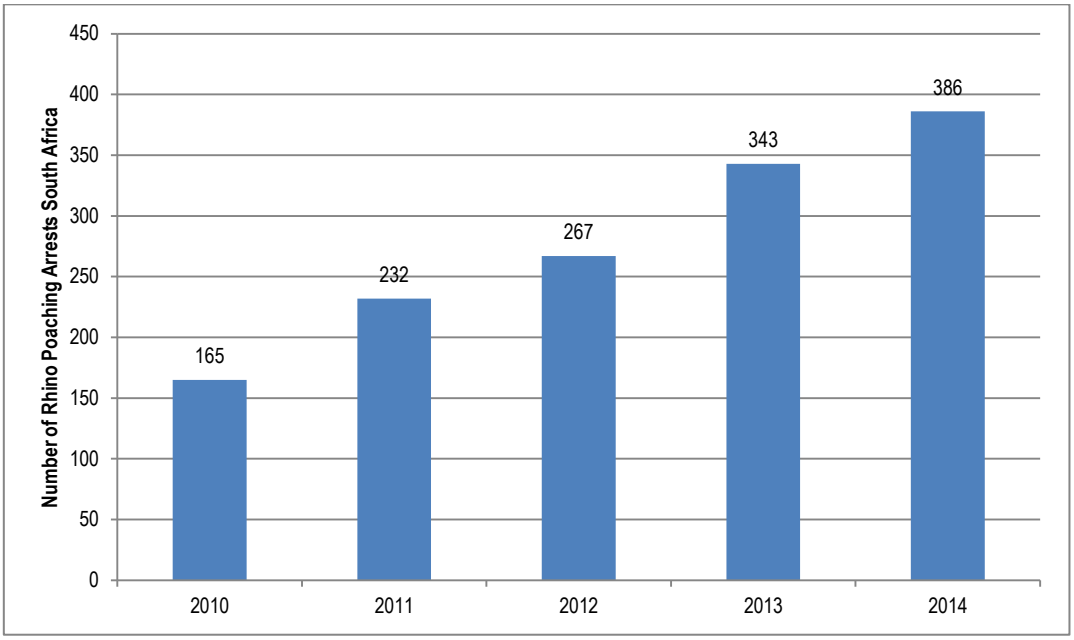
In 2013, for the first time, the number of large seizures of ivory made in Africa exceeded the seizures made in Asia. Three African countries – Kenya, Tanzania and Uganda – accounted for 80% of those seizures. While the quantity of individual seizures has fallen since 2012, the total amount of ivory seized (measured in weight) has increased (Milliken 2014). Experts consider these large-scale seizures as indicative of the involvement of transnational organised crime in the illicit ivory trade. Such large-scale seizures could be a fruitful area for future analysis of the overall illicit wildlife market, using them to uncover new intelligence on current routes, illicit actors and consumers. Indeed, the law enforcement agencies involved in combatting wildlife trafficking seemingly need a boost wherever it can come from. As Figures 3.3 and 3.4 indicate, the rise in the number of rhino poaching arrests is outstripped by the increases in rhinos poached. The fear is that the average number of rhinos poached per year will only decrease once there are too few rhinos left to ensure survival of the species. Reports have recorded concern among conservationists and informants about the inability of the South African police and justice systems to successfully arrest and prosecute rhino poachers. Official documentation records at least 1 164 arrests in South Africa in connection with rhino poaching since 2010. It is unclear how many arrests led to formal charges, but the reported conviction rate for rhino crimes is less than five percent and even as low as 2.6% in 2010 (MacLeod, F. 2014a).

Figure 3.3. Recorded number of rhinos poached in South Africa (2000-2014)



Source: Department of Environmental Affairs, South Africa (2015) "Rhino poaching statistics update", available at www.environment.gov.za/projectsprogrammes/rhinodialogues/poaching_statistics, accessed 13 August 2015.

Figure 3.4. Rhino poaching arrests in South Africa (2010-2014)



Source: Department of Environmental Affairs, South Africa (2015), "Rhino poaching statistics update", available at www.environment.gov.za/projectsprogrammes/rhinodialogues/poaching_statistics, accessed 13 August 2015.

Estimated market value of wildlife trafficking

The main wildlife trade-monitoring network, i.e., 'Trade Records Analysis of Flora and Fauna in Commerce' (TRAFFIC), estimates the illegal wildlife trade (excluding timber and fisheries) at between USD 5 billion to USD 20 billion per year (Milliken 2014). Table 3.1 presents estimated prices for exotic animals as reported by Havocscope (2015).

Table 3.1. Illustrative prices for live animals and animal parts

Exotic animals and parts	Price
Chimpanzees (live)	USD 50
Elephants	USD 28 200
Gorillas	USD 400 000
Ivory	USD 850 per kilogramme in Asia
Ivory with carvings	USD 3 000 per kilo
Rhino horns	USD 97 000 per kilo
Rhino horns (crushed for medicine powder)	USD 10 in Viet Nam
Shark fins	USD 100 per kilo

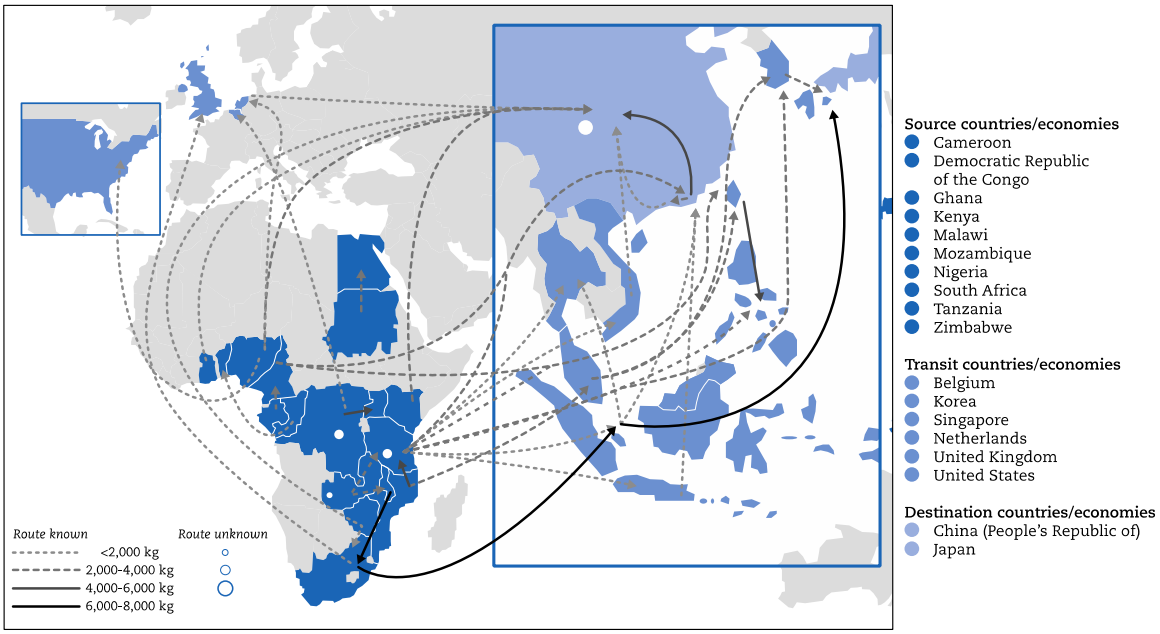
Source: Havoscope 2015

Identification of wildlife trafficking routes

Accurate identification of wildlife trafficking routes would help law enforcement agencies to target their effort. The routes change over time, however, and the inability to forecast these movements indicates the insufficiency of most methodologies to collect timely information about the market actors in the supply and distribution chains. Information gathered during seizures provides an indication of points of exit or entry, but these can vary considerably, and only the country of origin, transit country or destination country can be deduced. Law enforcement agencies that provide intelligence on wildlife trafficking help enrich the aggregate data pool, though it is necessary to put that information into context and understand the value of the gaps in data as well as the data provided. Also, "it is important to understand that the absence of a particular trade route does not necessarily mean that there were no large-scale ivory movements along such a route, but rather that such trade was not detected by local law enforcement agencies, or that a part of the trade route was not recorded in the data at hand" (IUCN/SSC 2013). It is imperative to approach data collection and analysis strategically in attempting to determine the routes along which illegal wildlife trade occurs.

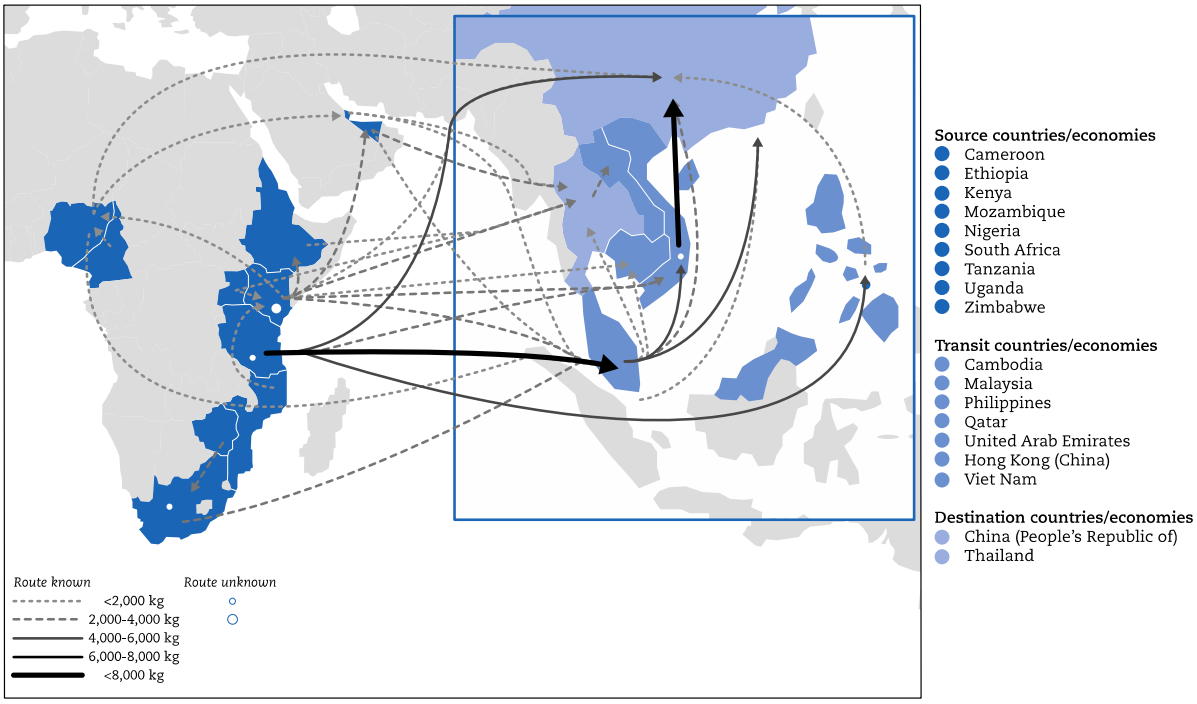
Figure 3.5 depicts regional and international ivory trafficking routes that originated in Central and Western Africa during the period 2000-2008. Specific locations included Douala, Cameroon, Lagos, Nigeria, and Accra, Ghana, by sea, and from the DRC by air. Tanzania, Kenya and Mozambique also emerged in this period as exporters of ivory, but the South African port of Durban was the largest exporter during the period. Other noteworthy trends show that there is movement of ivory within several countries in Africa, with a major unregulated ivory trafficking market identified between the Sudan and Egypt (IUCN/SSC 2013).

Figure 3.5. Trade routes for large-scale (>500kg) seizures of ivory (2000-2008)



Source: CITES Secretariat, IUCN/SSC African Elephant Specialist Group and Traffic International (2013), "Status of African elephant populations and levels of illegal killing and the illegal ivory trade: A report to the African Elephant Summit", s.l.: s.n.

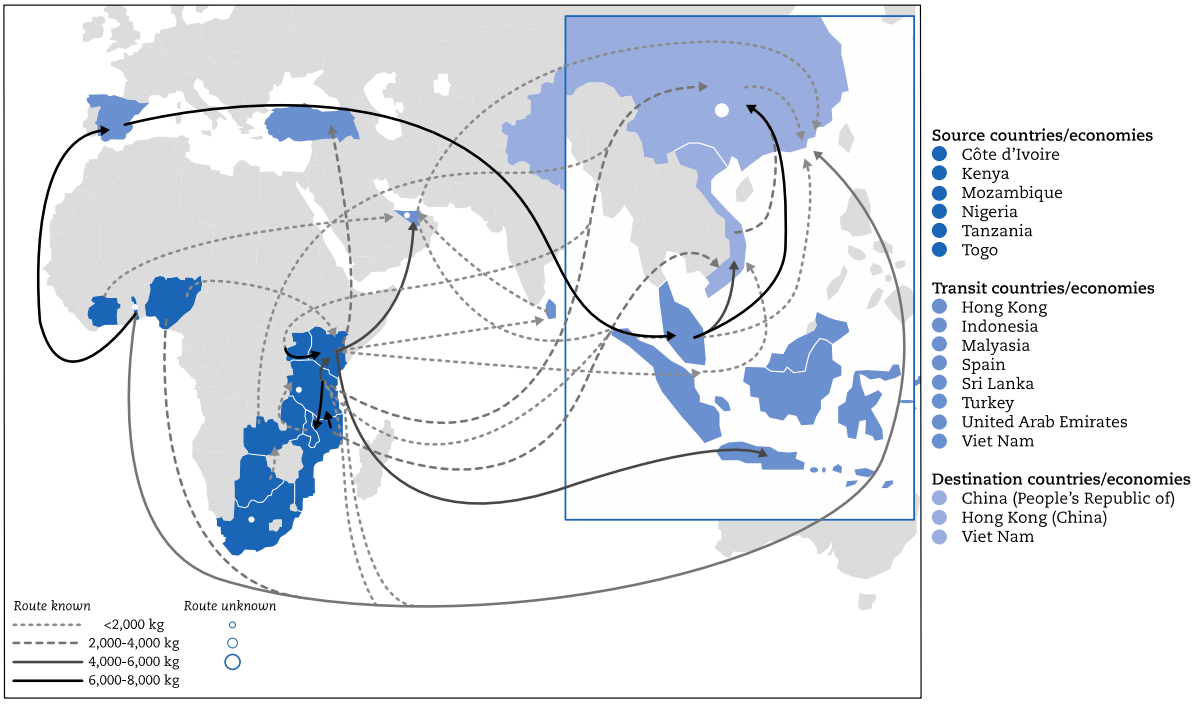
Figure 3.6. Trade routes for large-scale (>500kg) seizures of ivory (2009-2011)



Source: CITES Secretariat, IUCN/SSC African Elephant Specialist Group and Traffic International (2013), "Status of African elephant populations and levels of illegal killing and the illegal ivory trade: A report to the African Elephant Summit", s.l.: s.n.

Figure 3.6 shows a shift to the eastern coast of Africa from 2009-2011, with the Indian Ocean ports of Dar es Salaam and Zanzibar in Tanzania acting as major exporters. Even in 2012-2013, data shows that Tanzania is still heavily involved in the trade, but Kenya's port of Mombasa becomes the leading conduit through which major flows of ivory exit Africa. The highest importers of illegal ivory remained China and Thailand (Nellemann et al. 2013). Though shipments to the destination countries are sometimes direct, ivory has also been tracked as first passing through Malaysia, the Philippines, Viet Nam, Cambodia, the United Arab Emirates, Spain and/or Turkey on its way to East Asian end-use markets (IUCN/SSC 2013).

Figure 3.7. Trade routes for large-scale (>500kg) seizures of ivory (2012-2013)



Source: CITES Secretariat, IUCN/SSC African Elephant Specialist Group and Traffic International (2013), "Status of African elephant populations and levels of illegal killing and the illegal ivory trade: A report to the African Elephant Summit", s.l.: s.n.

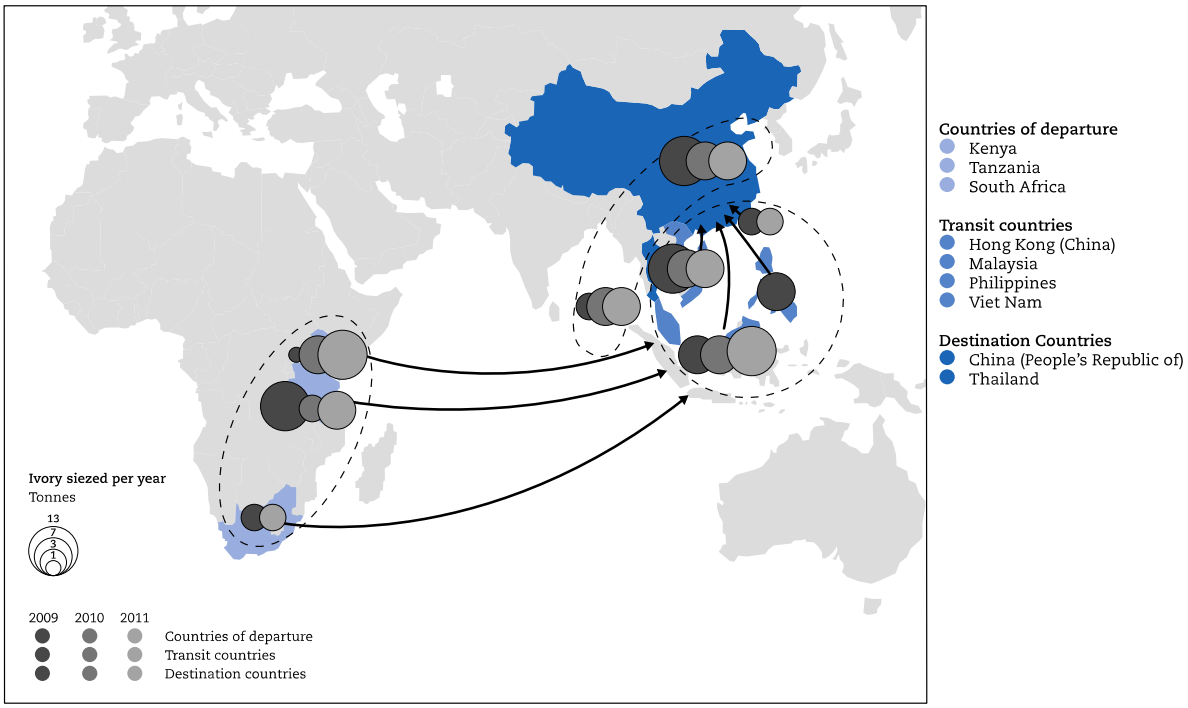
Comparing the routes presented in Figures 3.5-3.7 reveals significant change in the main points of export from the African continent. If port seizures are an accurate proxy for the illegal trade of ivory overall, then the trade is surprisingly flexible over extremely long distances. As noted above, the main exit hubs were South Africa and Tanzania in 2008, but in 2012 massive seizures of ivory began to take place in the west coast country of Togo, transiting through Western Europe en route to Malaysia. The figures above also indicate a short-term shift in shipments destined to Singapore as a transit hub (see Figure 3.6), whereas the centre of transit activity had been Malaysia previously, and would become so again in 2012. While the cause of these changes cannot be determined by a simple comparison, one hypothesis is that interdiction efforts were reinforced in South Africa and Singapore, which compelled trafficking networks to adapt. Enhanced law enforcement is part of the global solution to this global problem. Table 3.2 presents reported cases by law enforcement actions in a transit country (the United States) to bring traffickers of rhinoceros horns to justice. In these cases the intended route was from South Africa to the United States, then on to a terminal point in Asia.

Table 3.2. International criminal cases of rhino horn trafficking

Year	Trafficking route	Description of incident
Feb-12	Route was South Africa to United States, intended for China.	Arrest on charges of trafficking in endangered black rhinoceros horn over the period of a week in Los Angeles, Newark, New Jersey and New York.
Jan-13	United States to China.	The owner of an antique business in China was sentenced to serve 70 months in prison for heading an illegal wildlife smuggling conspiracy in which 30 rhinoceros horns and numerous objects made from rhino horn and elephant ivory, worth more than USD 4.5 million. Arrest was made in Florida in January 2013.
Feb-13	Route was South Africa to United States, intended for China.	Antiques dealer sentenced in New York City for crimes relating to illegal trafficking of endangered rhinoceros horns.
Sep-13	United States	Trafficking raw rhinoceros horns from Texas to customers in New York.
Mar-14	United States (Bronx, New York) mailed to Washington state intent to drive across Canadian border.	Arrest for conspiring to smuggle wildlife, including rhinoceros horn, elephant ivory and coral.
Oct-14	Objects smuggled from United States to China.	An auction house located in Boynton Beach, Florida, and the company's president and owner, pleaded guilty in U.S. District Court in Miami, Florida, to an illegal wildlife trafficking and smuggling conspiracy in which the auction house sold rhinoceros horns and objects made from rhinoceros horn, elephant ivory and coral.

Source: United States Department of Justice, Wildlife Trafficking Prosecutions, available at: www.justice.gov/enrd/african-elephant-ivory-smuggling.

Figure 3.8. Large-scale ivory seizures

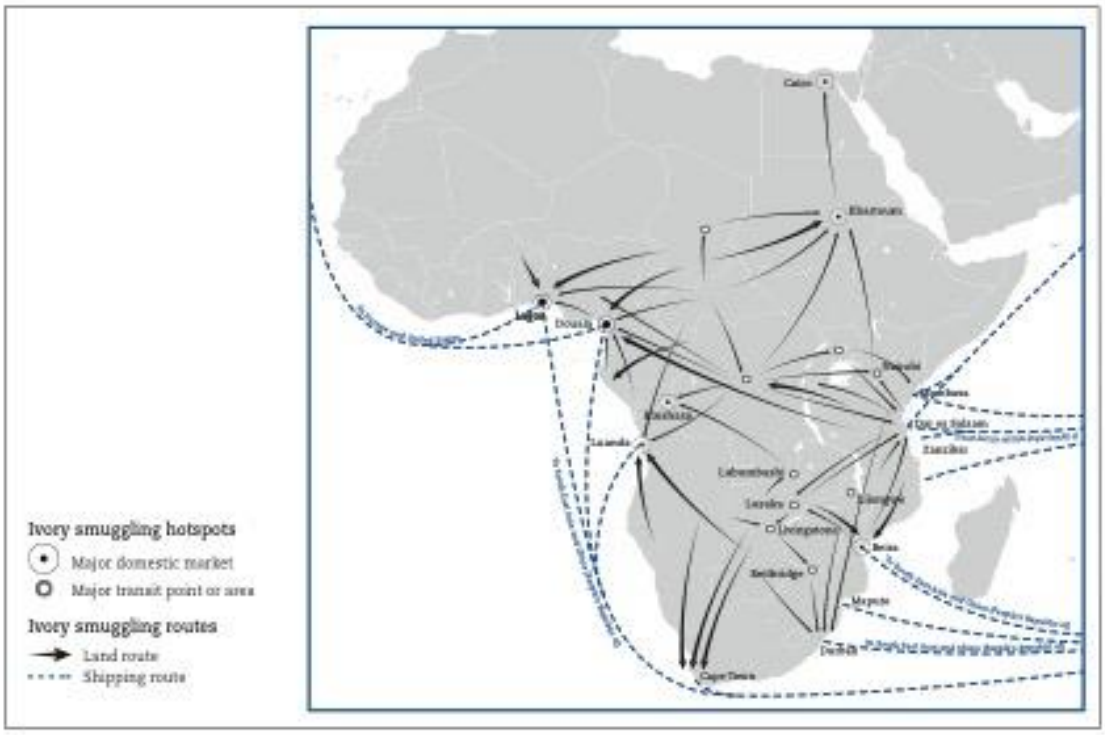


Source: Nellemann, C. et al. (2014), The Environmental Crime Crisis: Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources, Birkeland Trykkeri, Birkeland, Norway.

Note: When countries are mentioned it is a reference to economies and territories.

Sub-Saharan African countries that serve in the ivory trafficking trade as a source, transit or port of exit include Cameroon, Congo, the DRC, Ethiopia, Gabon, Mozambique, Uganda and Nigeria. "The Democratic Republic of Congo, Mozambique and Nigeria all have important unregulated domestic ivory markets in their major cities, while Nigeria, Mozambique, Uganda and Cameroon have been implicated in the large-scale movement of ivory" (Nelleman et al. 2014). It is important to examine the trends in ivory seizures, where it comes from, the route it took to arrive at the point of seizure and where it was going. Such information can offer insight into spatial patterns of wildlife trafficking. Data from the report by Nelleman et al. also indicates the existence of ivory trafficking routes by road from Burkina Faso, Chad, the Central African Republic (CAR), the DRC and even as far east as Tanzania, terminating in Nigeria and Cameroon, with destination points in Europe and the United States. To avoid detection of the point of origin, some wildlife traffickers have been exploring new ports from which to ship their ivory, such as Togo and Côte d'Ivoire. Further evidence of this is suggested by INTERPOL Purple Notices. In one instance in January 2014, an ivory seizure in the port of Lomé, Togo, revealed nearly four tonnes of ivory hidden among teak logs en route to Viet Nam (Interpol 2014). The continued heavy trafficking activity in these East and Southern African countries may also suggest a shift in poaching patterns (IUCN/SSC 2013).

Figure 3.9. Illegal ivory trafficking routes



Sources: CITES (2007), "COP14 Proposal 6 »; Wasser, S., K., et al. (2007), "Using DNA to track the origin of the largest ivory seizure since the 1989 trade ban", PNAS; Environment Investigation Agency (2007), "How China's illegal ivory trade is causing a 21st century African elephant disaster, 2007"; UNODC (2010), "Promoting health, security and justice"; GRID-Arendal (2012).

Preliminary data contributed to this report was collected by the International Fund for Animal Welfare (IFAW), covering the period 2002-2011, including information on elephant carcasses found in the Samburu-Laikipia ecosystem in Kenya, just north of Nairobi. A major ivory trafficking route originating in Uganda passes through this region on its way to the major Kenyan port at Mombasa. A strong correlation has been observed between the illegal transit of goods and extremist operations along a largely unregulated transit route in Mauretania. The corridor exists between Nouakchott, Akjoujt, Atar and Zouerate, leading to a large port of entry in West Africa.

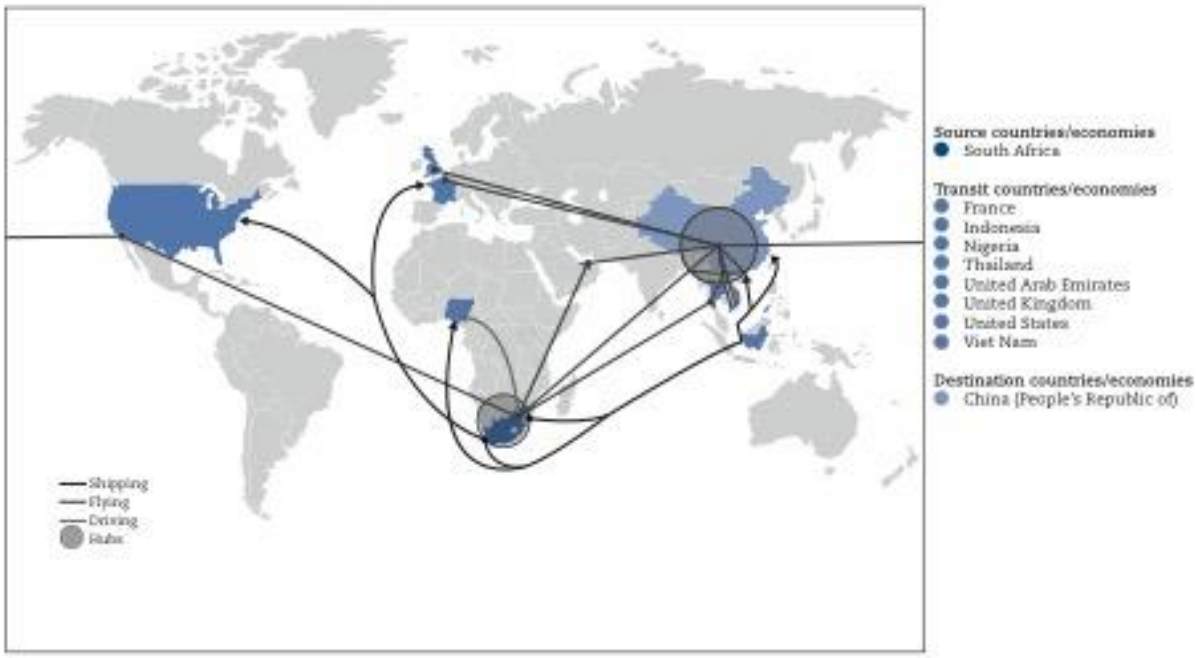
Trends in rhino horn trafficking routes

More than 2,757 rhinos have been poached in South Africa since 2010. South Africa is home to more than 80% of the world's remaining rhino population. China accounted for nearly 80% of the reported seizures of illegal rhino horns in Asia between 2009 and 2013, despite a national ban on the illicit trade (MacLeod, F. 2014b). Like ivory trafficking, rhino horn trafficking is also evolving. Figure 3.10 shows the maritime, air and land routes along which it is transported out of Africa. The mapped trends suggest air routes are the most frequent mode of transport. Air routes originating in South Africa tend to terminate in Asia, where demand for rhino horn is high. According to figures collated

by Traffic, 30 seizures of 67 rhino horns weighing 151.93 kilograms were documented in China with trafficking routes varying in every case. Horns poached in Southern Africa were found sometimes to have been shipped in cargo holds from Cape Town or Maputo. A less direct route was also identified as transiting through other African countries first, such as Nigeria, and then shipped among timber or agricultural products to China. In other cases horns were sent by post or shipped to North America or Europe as transit points to China.

With increased information sharing by networks of concerned stakeholders, visualisations of such routes could be overlaid with data on other trends of illicit activity, to identify common routes used for black-market trade and further security threats to sovereign nations.

Figure 3.10. Maritime, air and land routes of the illicit rhino horn trade



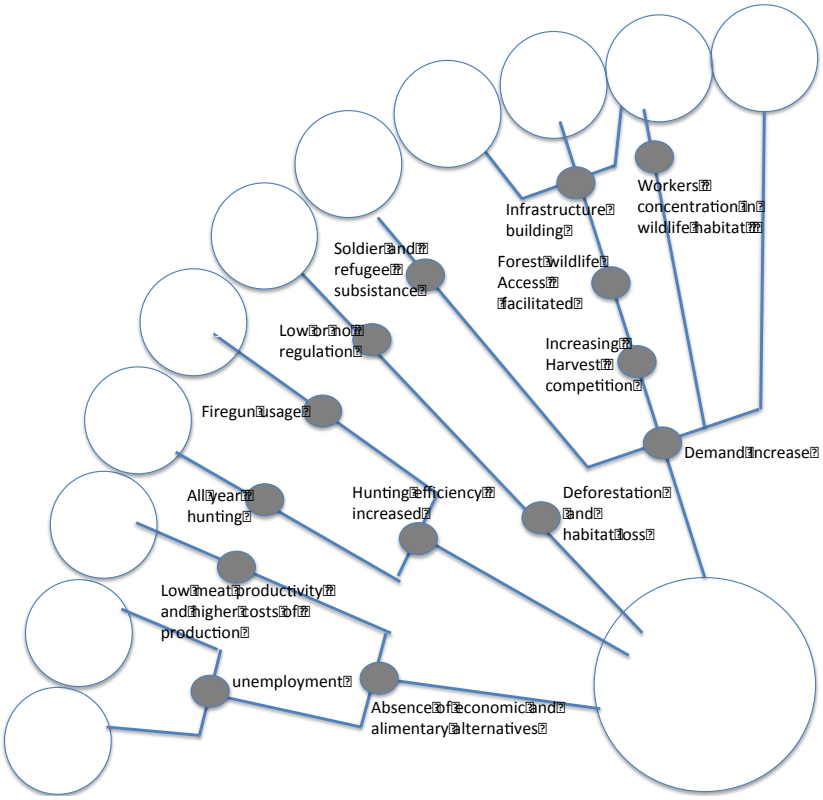
Source: Macleod, F. (2014), "Routes of rhino horn," available at: www.visionscarto.net/routes-of-rhino-horn, accessed 17 August 2015.

Trends in bushmeat trafficking routes

Unlike the high-end international market for ivory, bushmeat is primarily produced, traded and consumed in a relatively smaller, local area of operation on the African continent. While "some international trade is suspected to take place in gorilla meat or body parts, this appears to be very limited and seems to take place between neighbouring gorilla range states" (Nellemann, Redmond & Refisch 2010). Apes are poached to be sold into local bushmeat markets, for example one case study describes a three-month observation period that revealed dried and smoked bushmeat products in the Tshuapa-Lomami-Lualaba landscape near the Congo River were being transported via bicycle to

the neighboring town of Kindu. Central Africa is an area of high demand for bushmeat – with residents "annually consuming approximately 1.1 million tons of bushmeat," and additional demand from "militias, refugee camps and mining and logging camps" (Nellemann, Redmond & Refisch 2010).

Figure 3.11. The bushmeat chain reaction



Source: Nellemann, C. et al. (2014), The Environmental Crime Crisis: Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources, Birkeland Trykkeri, Birkeland, Norway.

Trends in trafficking routes were also found that suggest main routes from bush meat markets are found along roads within the vicinity of national parks (FA et al. 2013). Macdonald et al. 2012 report that "most markets in our study were within 5 kilometres of a road", a condition that is also typical of approximately 40% of forests in Central Africa (Wilkie, Sille & Boundzanga 1992). Consequently, the similarity in species sold in the Calabar market and markets around Korup National Park may indicate that animals hunted in Korup can be easily transported to Calabar. The situation is likely to worsen because hunting pressure will grow as road networks expand and the area of forest accessible to hunters increases, as observed in many tropical forest regions (Peres & Lake 2003).

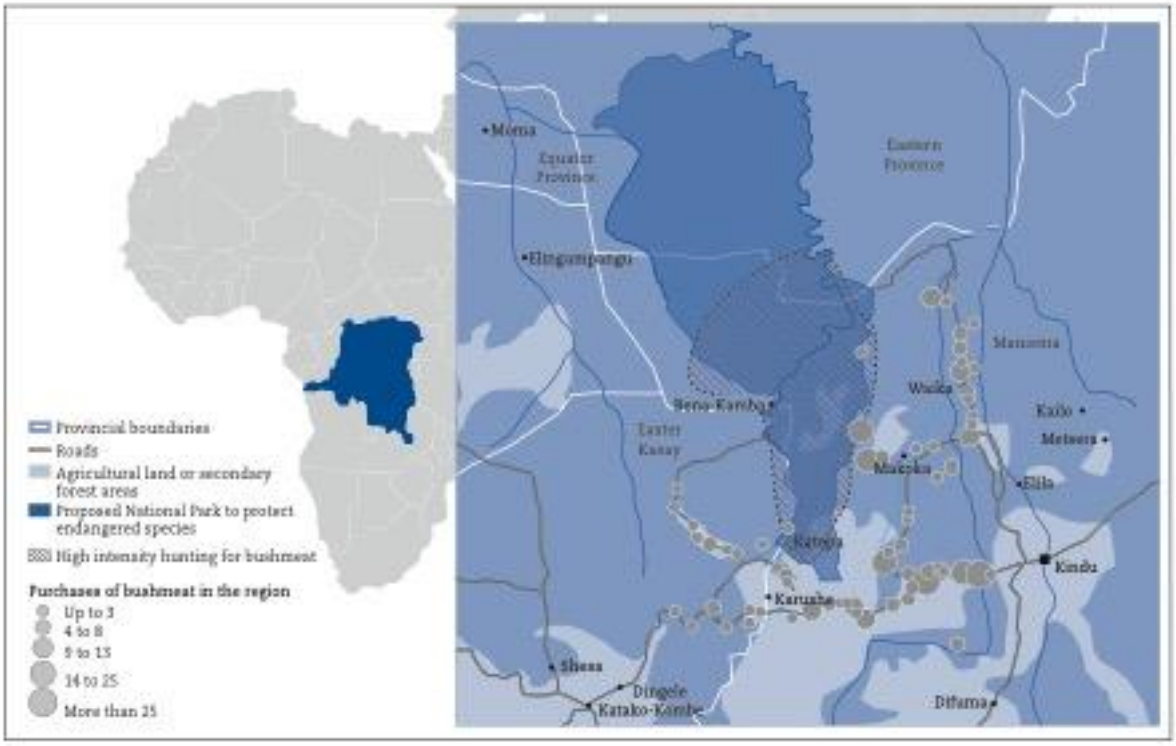
Current trafficking hotspots

Several reports were aggregated to highlight trafficking hotspots, indicating a high prevalence of trafficking production, distribution and consumption. The "illegal killing

was most pervasive in the populations of Central Africa" and the Democratic Republic of the Congo in particular (Wittemeyer et al. 2014). In 'The Last Stand of the Gorilla', case studies and anecdotes identify areas like the DRC's province of Equateur, where the bonobo population is in decline due to poaching to consume bush meat. Routes in Maniema province have been identified as flourishing bush meat trade routes "leading east to the town of Kindu on the banks of the Congo River" (Nellemann Redmond & Refisch 2010). This indicates that most bush meat poaching incidents are occurring close to protected areas.

Once over-poaching has caused the population of certain species to drop in unprotected areas, where it is commonly known for poaching to occur, hunters will begin targeting wildlife in protected areas, such as in or near national parks. A survey of species sold in bushmeat markets in West and Central Africa, specifically the Cross-Sanaga rivers region in Cameroon and Nigeria, was used to "detect wildlife patterns" in the region (FA et al. 2013).

Figure 3.12. Bushmeat trade in Tshuapa-Lomami-Lualaba Region, the DRC



Source: Nellemann, C. et al. (2014), The Environmental Crime Crisis: Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources, Birkeland Trykkeri, Birkeland, Norway.

An analysis of data presented in Figure 3.12 provides insight into the production and consumption patterns of bush meat markets (FA et al. 2013). Market groups were identified by the species sold, and mapped according to the distribution of threatened species in that area. Eight geographically distinct market groups were identified with

most being sold in proximity to two national parks, Korup National Park in Cameroon and Cross River in Nigeria. The high prevalence of market locations near national parks reveals trafficking hotspots. The results of this study indicated that of all market groups observed, bushmeat trade in threatened species was traded in 98.9% of them. This delineated a "clear zone of higher trade in threatened species extending from Douala in the southeast to Loum and Manyemen (Cameroon) and Ikom and Abaragba (Nigeria) in the northwest," overlapping with species from the Cross River and Korup National Parks areas (FA et al. 2013).

Trafficking hotspots in ivory cover a wider area than bushmeat, due to high demand overseas. Data collected in 2006, 2007, 2010 and 2012 identify major domestic ivory markets in Lagos, Nigeria; Douala, Cameroon; Luanda, Angola; Kinshasa, the DRC; Beira, Mozambique; Khartoum, Sudan; and Cairo, Egypt. Known poaching activity accounts for a high percentage of illegally killed elephants in Central and Eastern Africa, with lower rates in Western and Southern Africa. The chief transit points were found in central Chad; Lubumbashi, the DRC, as well as in the centre of the country; Uganda; Nairobi, Kenya; Lilongwe, Malawi; Beitbridge, Zimbabwe (on the border of South Africa) and Lusaka and Livingstone in Zambia (Nellemann et al. 2013).

Conclusions

Wildlife poaching has undergone a qualitative change in the age of globalization fuelled by global demand and supplied by criminal networks. A coordinated and comprehensive strategy to reduce demand for illegal products and enhance enforcement capacities is needed to adapt to the magnitude of this challenge.[4] Law enforcement agencies need access to strategic intelligence, which will enhance efforts to interpret trends and take timely actions on the ground before the traffickers can adapt. While it is important to build capacity amongst national law enforcement agencies and local monitoring networks, the knowledge and skills to conduct monitoring services and information analysis can also be contracted and imported. To this end it may be necessary to change national legislation to create the legal conditions necessary for dedicated civil society organisations to operate, and to allow them to deploy the best available techniques and technologies. The comprehensive enforcement strategy should lend sustained support to the training of police, military, judicial and customs officers.

One approach to address the information gap that enforcement agencies face in identifying illicit trade routes for wildlife is to support the emerging OECD Task Force on Charting Illicit Trade 'Information Sharing Platform' (TF-CIT ISP). This tool establishes a common space where experts from government, NGOs, academia and even industry could tap into near real-time mobile reporting. It offers a rich collection of geo-tagged data that has not historically been available to such agencies. Mapping this open-source data will allow for greater visibility of the wildlife trafficking trade by all concerned stakeholders, whether national and local governments of the countries impacted. If, for example, an instance of poaching occurs in a high-trafficking area where all but one country are taking measures to reduce illegal poaching and trade, the resistant country and its hotspots can be more easily identified.

Using this data for presentations and reports will allow rapid feedback for policy and enforcement changes. The data can be used to support real-time enforcement. Countries, industries and individuals affected by wildlife trafficking and illicit trade in other goods will gain a heightened awareness of illegal activity in their regions. This will allow them

to realise the larger impact these activities have on their business and communities, and give them a greater say in policies to combat illicit trade.

Several presentations of geo-spatial data depicting the trends in wildlife trafficking have been made at meetings of the OECD Task Force on Charting Illicit Trade.[5] These hotspot images were aggregated from various open-source publications and information contributed to the OECD TF-CIT Information Sharing Platform (ISP). Not much raw open-source data is at present available. This suggests that there is more that could be achieved by the ISP and its partners, which are seeking to provide timely data for analysis from multiple sources and from granular data tracked as incidents come to light. New technology, like the International Fund for Animal Welfare's mobile reporting app, can pass on trafficking data to a platform that centrally aggregates rich information, so that a broader group of organisations, and possibly law enforcement, can use it. For example, some countries may have a strong political will to participate in this type of partnership, but may be hindered by limited resources. Use of local ad hoc task forces in counter-narcotics in South and Central America has had considerable success following this approach to intelligence gathering on trafficking activities.

Countries that have resources to help policy partners need to ensure they are co-ordinating with agencies that have the proper authority to disseminate data, so that such task forces can focus on the use rather than collection of information. More frequent reporting and collecting of data can help make enforcement more successful. Awareness of these issues has encouraged non-governmental organisations (NGOs) to develop applications to assist in this effort. The time and resources needed to roll out an enterprise tool can often prevent organisations from making timely contributions. A group like the ISP has much to offer on this score. First, it can offer engineering advice and powerful platform scalability to optimise the functionality of an NGO's specific skills and focus. It can also help facilitate the rollout of reporting applications and functionalities that can be used for analysis and enforcement. Willing host nations can thus be introduced to a rich source of immediately available information that is far more accessible than in the past.

Stakeholders will be able to find a sense of community and trust in contributing to a common pool of information. They will also be more collectively informed about the disparate data, and benefit from a forum where data analysis can be explored and shared. The platform could serve as a resource for research to inform public policy. The volume and granularity of trafficking details could be used to update routine engagements, providing the latest information for meetings with policy partners. Dynamic tools used by the platform can provide this information for reporting, analysis and presentations to influence policy related to trends, hotspots and changes in illicit trade.

Because this data would be collected and shared in its raw format, its potential value would be greater, because it can be organised, mosaicked and analysed and yield more information than if it were shared in a pre-processed format. This more flexible format makes it possible to produce relevant analysis for specific policy research. High-level group policies are needed, that can be agreed upon collectively, to avoid instances like the example noted earlier, so that neglectful countries that do not subscribe to co-operative policies in trafficking can sabotage the efforts to combat illicit trade by neighbouring nations. Modern web and mobile tools make it possible to use targeted search terms that provide information based on general rather than specific questions. Providing a real-time collection of participatory information related to illicit trade can engage a broader base of contributors. National policy could also benefit from the dynamic views that allow for a

"story-telling" approach to presentations. This simple means of relaying the information could reinforce commitment to the prevention of cross-border illegal activity. If policies are collectively implemented and sanctions broadly enforced, for example in the level of sentencing imposed on illicit trade, their impact can be broadcast across different countries in a region.

Lessons learned in data collection with countries that have a strong willingness to participate and share information will provide examples of best practices. These can be applied in areas where the nexus of illicit trade funds extremist groups. Groups like Boko Haram heavily leverage the illicit trade apparatus in Africa to finance their operations. The human trafficking and kidnapping for ransom in Nigeria, for instance, is associated with the illegal fishing trade down the Kamadougou River in the northeastern area of Nigeria via Boko Haram. Similar activity by the Lord's Resistance Army has been identified where it operates in Uganda, South Sudan and areas of the DRC. Extremist groups like these work to control ports of entry across porous borders in bucolic areas of Africa, which further contributes to the convergence of illicit trade that directly finances national security threats to the region and the rest of the world.

The amount of information related to illicit trade varies greatly, but the aggregated data can provide new context for a growing challenge throughout the world. Further information sharing and new technology can offer deeper insight into the impact of current policies for deterring illicit trade. They could also help craft policy that casts a broader net in the areas where illicit trade intersects with other criminal activity.

The opportunities for analysis depend on acquisition of more detailed and broad data. For example, technology platforms now support real-time reporting, rather than yearly reports, to present visual information overlaid with display data on other illicit enterprises. This analysis would produce concrete and timely metrics, and reveal nexuses among activity that may not have been evident in the past. The aggregation of mobile reporting is just scratching the surface of potential value of the data analytics. A combination of crowd-sourced information from varying areas of illicit trade in different regions of the world, blended with private information sharing, would provide insights that allow for more effective policies to combat a range of illicit trade that shares common logistical shipping routes and transporters.

Notes

[1] The OECD Task Force on Charting Illicit Trade Information Sharing Platform can be accessed at: http://www.oecd-tfcit.org/index.html.

[2] A consumer research study, conducted in 2013, surveyed 720 individuals in Hanoi and Ho Chi Minh City and discovered that rhino horn users value this item because of its significance from a social point of view. Buyers and users of rhino horn form a powerful social network consisting of important individuals with whom it is crucial to maintain good relationships. Rhino horns are sometimes bought for the sole purpose of being gifted to others; to family members, business colleagues or people in

positions of authority. Those purchasing rhino horn believe that owning rhino horn, as well as being able to purchase it for others, reaffirms their social status and strengthens the bonds among peers within their particular network.

[3] Such technologies include such unmanned aerial vehicles (UAV), embedded sensor and actuator solutions in transport assets, cargo shipment data mining with risk analytics, next generation surveillance cameras, x-ray technologies and robotics.

[4] For evidence that such efforts can work see the renunciation by leading traditional Chinese medicine companies of the use of endangered plants and animals protected by national legislation and CITES in medicinal products. www.traffic.org/home/2015/10/15/chinese-tcm-industry-says-no-to-illegal-wildlife-trade.html.

[5] See a presentation on the OECD TF-CIT Information Sharing Platform at: www.slideshare.net/fullscreen/OECD-GOV/thermopylae-tfcit2015/1.

References

Basu, G. (2014), "Combating illicit trade and transnational smuggling: key challenges for customs and border control agencies", World Customs Journal, Vol. 8, No. 2.

Carrington, D 2014, 'Fewer Elephants Killed in 2013, Figures Show', Guardian, 2014 June 2014.

CITES Secretariat/IUCN/SSC African Elephant Specialist Group/Traffic International 2013, 'Status of African Elephant Populations and Levels of Illegal Killing and the Illegal Ivory Trade: A Report to the African Elephant Summit'.

Department of Environmental Affairs South Africa 2015, Rhino Poaching Statistics Update, viewed 13 August 2015, https://www.environment.gov.za/projectsprogrammes/rhinodialogues/poaching_statistics.

FA, J, FARFAN, M, MARQUEZ, A, DUARTE, J, Nackoney, J, Hall, A, Dupain, J, Seymour, S, Johnson, P, Macdonald, W & Vargas, M 2013, 'Mapping Hotspots of Threatened Species Traded in Bushmeat Markets in the Cross Sanga Rivers Region', Conservation Biology, vol 28, no. 1, pp. 224-233.

International Fund For Animal Welfare (2013): 'Criminal nature: the global security implications of the illegal wildlife trade'.

Interpol 2014, 'Modus Operandi-Seizure of 3.815 Tons of Ivory, 22.5 kg of Pangolin Scales and 266 Teak Logs in Lome Togo', Interpol Purple Notices.

Macdonald, D, Johnson, P, Albrechtsen, L, Seymour, S, Dupain, J, Hall, A & Fa, J 2012, 'Bushmeat Trade in the Cross Sanga Rivers Region: Evidence for the Importance of Protected Areas', Biological Conservation, no. 147, pp. 107-114.

Macleod, F. (2014a), "Cases on the court roll", Oxpeckers Centre for Investigative Environmental Journalism, South Africa. http://oxpeckers.org/2014/07/cases-on-the-court-roll

Macleod, F. (2014b), "Routes of rhino horn", Oxpeckers centre for investigative environmental journalists, South Africa.

Milliken, T 2014, 'Illegal Trade in Ivory and Rhino Horn: an Assessment Report to Improve Law Enforcement Under the Wildlife TRAPS Project.', USAID and TRAFFIC.

Nelleman, C, Henrikson, R, Raxter, P, Ash, N & Mrema, E 2014, 'The Enviromental Crime Crisis: Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources', United Nations Environment Programme, GRID-Arendal, Birkeland Trykkeri, Birkeland.

Nellemann, C, Formo, RK, J., B, Skinner, D, Milliken, T & T., MD 2013, 'Elephants in the Dust: The African Elephant Crisis', United Nations Environment Programme, GRID-Arendal, Birkeland Trykkeri, Birkeland.

Nellemann, C, Redmond, I & Refisch, J 2010, 'The Last Stand of the Gorilla: Environmental Crime and Conflict in the Congo Basin', United Nations Environment Programme, GRID-Arendal, Birkeland Trykkeri, Birkeland.

Peres, C & Lake, I 2003, 'Extent of Nontimber Resource Extraction in Tropical Forests: Accessibility to Game Vertebrates by Hunters in the Amazon Basin', Conservation Biology, no. 17, pp. 521-535.

Scriber, B 2014, '100,000 Elephants Killed by Poachers in Just Three Years, Landmark Analysis Finds ', National Geographic, 18 August 2014.

Stanford, C 2014, 'Planet Without Apes', in Planet Without Apes, Belknap Press, United States of America.

TRAFFIC (2013), 'Rhino horn consumers, who are they?', http://www.traffic.org/general-pdfs/Consumers_factsheet_FINAL.pdf.

Vigne, L & Martin, E 2014, 'China Faces a Conservation Challenge: The Expanding Elephant and Mammoth Ivory Trade in Beijing and Shanghai', Save the Elephants and the Aspinwall Foundation , Nairobi.

Wilkie, D, Sille, J & Boundzanga, G 1992, 'Mechanized Logging, Market Hunting and a Bank Loan in Congo', Conservation Biology, no. 6, pp. 570-580.

Wittemeyer, G, Northrup, J, Blanc, J & Douglas-Hamilton, I,P,K 2014, 'Illegal Killing for Ivory Drives Global Decline in African Elephants', Proceedings of the National Academy of Sciences, vol 111, no. 36, pp. 13117-13121.

Chapter 4

Illicit trade in counterfeit medicines

By Professor Kristina Lybecker *

This chapter presents an assessment of illicit trade in counterfeit medicines, which in the 21st century has changed starkly in its geographical scope and pervasiveness across different product classes. Masquerading as curative medicines, counterfeit pharmaceuticals are increasingly prevalent and profitable. In addressing the threat of counterfeit drugs, there is obvious scope for benefiting both consumers and international pharmaceutical firms.

Pharmaceutical counterfeiting has been identified over thirty years ago but went undiscussed. The industry now not only readily concedes counterfeiting is a threat to its business, in some cases it publicly addresses the strategies and anti-counterfeiting technologies in use and development. Acknowledging the problem enables better partnering with governments, health advocates and other supply-chain entities, since the incentives are aligned to prevent counterfeiting. In light of the more public and more aggressive campaigns against counterfeiting, it is important to examine the extent of the problem, what is known about counterfeit production and distribution, the links to organised crime and the policy responses that have been particularly effective. This paper reviews each of these in turn, as well as new policy initiatives that appear promising.

* Professor of Economics, Colorado College

The opinions expressed and arguments employed in this chapter are those of the author(s) and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

This chapter and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

The legal debate over the correct definition of counterfeit medicines and the appropriate terminology has inhibited progress in combating counterfeiting and improving the quality of available medicines. As noted by the World Health Organization, the lack of a universally accepted definition has thwarted progress toward understanding the extent of the problem and facilitating the exchange of information between countries. To address this, the WHO developed the following definition:

> *"A counterfeit medicine is one which is deliberately and fraudulently mislabelled with respect to identity and/or source. Counterfeiting can apply to both branded and generic products and counterfeit products may include products with the correct ingredients or with the wrong ingredients, without active ingredients, with insufficient active ingredients or with fake packaging." (WHO, 2015)*

This paper adopts the definition and terminology used by the World Health Organization. While this is certainly the most widely-cited definition and as close as we can come to an agreed upon definition, the definitions utilized by individual countries and agencies do vary. Appendix I illustrates this dilemma and provides the definitions used across a selection of countries.

Based on confidential counterfeiting reports received between January 1999 and October 2000, the World Health Organization grouped the counterfeits into six categories:

- products without active ingredients (32.1%)
- products with incorrect quantities of active ingredients (20.2%)
- products with wrong ingredients (21.4%)
- products with correct quantities of active ingredients but with fake packaging (15.6%)
- copies of an original product (1%)
- products with high levels of impurities and contaminants (8.5%)

According to the WHO and its definition of pharmaceutical counterfeiting, products in each of these categories are considered counterfeit drugs (WHO, 2015). Fundamentally, pharmaceutical counterfeiting is an issue of deception, in packaging, ingredients, origin, manufacturing and quality.[1]

Beyond the definition provided by the WHO, which is used here, it is critical to clarify the language and terminology used. "Branded" drugs are those that are produced by the innovator company holding the patent (whether expired or not) on the drug. "Generic" drugs are those produced by other, non-innovator, companies either before or after patent expiry. Generics are assumed to be quality products whether they are patent-infringing and produced before the expiration of the patent or produced post-expiry. It is essential to recognise that patent infringement is not the issue.

In 2006, the World Health Organization created a global initiative, the International Medical Products Anti-Counterfeiting Taskforce (IMPACT) to provide a global approach to solving the problems of pharmaceutical counterfeiting. Unfortunately, the initiative was derailed by linguistic disputes over the definition of counterfeit drugs. "The Indian

and Brazilian Governments and some non-governmental organisations have opposed the work of IMPACT. The principal reason is they believe it would confuse quality and intellectual property rights issues and thus undermine access to legitimate and much lower-cost generic medicines consumed mostly in poor areas" (The Lancet, 2012). This struggle over language and the paralysis that resulted are indicative of the tremendous challenges that characterise the battle to combat pharmaceutical counterfeiting.

Given the debate over definitions and the nuances surrounding intellectual property rights and quality issues, it is instructive to clarify the difference between falsified and substandard medicines. Due the link between intellectual property considerations and the term "counterfeit", there is a trend toward using the term "falsified". As described by Paul Newton, head of the Welcome Trust-Mahosot Hospital-Oxford Tropical Medicine Research Collaboration, falsified medicines are deliberately fraudulently produced and frequently, though not always, lack the active pharmaceutical ingredients. In contrast, substandard medicines are legitimately produced by the authorised manufacturer, but "do not meet national pharmacopeial standards because of errors in the quality or quantity of raw materials or in manufacturing" (Newton, 2012). The distinction is of particular importance, since the origins and solutions are radically different for counterfeit and substandard medicines. The first is a deliberate criminal attempt to deceive, while the latter results from poor quality control.

Again, this paper adopts the definition and terminology used by the World Health Organization. While the word "counterfeiting" is utilised, it is critical to recognise that this goes beyond the issue of intellectual property theft; it is a purposeful and fraudulent act. Fundamentally, counterfeit medicines are neither regulated or quality controlled and should therefore be expected to be substandard as they move outside the safety of established, regulated supply chains.

Dimensions of the problem

Dr. Paul Newton concisely captures the challenge of determining the scope of the problem, "There are no data that allow anything more than (badly) informed guesses as to the global extent of the problem. … The paucity of reliable data means that it is difficult to know whether the problem is getting better or worse, how the epidemiology of substandard and falsified medicines differ and whether interventions are effective" (Newton, 2012).

While a variety of estimates exist on the magnitude of the global counterfeit pharmaceutical trade, the veracity of the data utilised is highly questionable. Many estimates seem to be pulled from thin air, while those most cited and those from the most reliable sources have uncertain origins and questionable methodologies. Capturing the dimensions of the problem is further complicated by several factors: linguistic disagreements as described above, the inability to pool data, the paucity of epidemiologically rigorous studies, the expense of sophisticated testing, biased sampling in collection and an extensive pharmaceutical grey market outside legitimate supply chains (IOM, 2013).

Although one may find many estimates about what percentage of drugs worldwide are counterfeit, the origins of such statistics are often uncertain, as is the methodology used to make the calculation. Perhaps the most widely cited statistic on counterfeit medicines originates from the World Health Organization, which estimates that 10% of

the global market for pharmaceuticals is comprised of counterfeits. Reports place the share in some developing countries at as high as 50-70%.[2] Despite the widespread use of this figure, its origins are uncertain, leaving numerous unanswered questions regarding the methodology used to make the calculation. In a WIPO/OECD workshop in 2005, Harvey Bale, director general of the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA), stated that the WHO estimate of 10% global counterfeits is statistically unlikely. Noting that 85% of the world pharmaceutical market is in developed economies where counterfeits comprise less than 0.2% of the market, the incidence of counterfeits in the remaining 15% of the world would necessarily have to be 66% to justify the figure of 10% (Bale, 2005).

Perhaps the best counterfeiting data in the world is maintained by the Pharmaceutical Security Institute (PSI). While its data is not publicly available, it is worthwhile to examine the source of this data, especially for perspective on the challenges surrounding the collection and analysis of counterfeiting data. The PSI data are collected from member company incident reports, government reporting and open-source documents. While this is arguably the best global database on counterfeit pharmaceuticals, it remains far from comprehensive, especially for a thorough understanding of the production and distribution of counterfeit drugs (see Appendix II for additional information on the data collection by the PSI).

While reports on counterfeiting incidents are plentiful, the magnitude of the problem is difficult to estimate. Pharmaceutical counterfeiting is a pervasive problem, affecting nations of every size and income level and drugs of every description. Given that the value of medicines is extremely high relative to their bulk, and demand is mostly price-inelastic over a wide price range[3], the problem of counterfeiting has assumed enormous proportions. In addition, the significant size of the global pharmaceutical market and the margin between manufacturing costs and market price create a substantial economic incentive (Lybecker, 2007). According to the 176-nation World Customs Organization (WCO), counterfeit drugs are now a USD 200 billion-a-year industry. Christophe Zimmermann, anti-counterfeiting and piracy co-ordinator of the WCO, states that "We now have more fakes than real drugs in the market. In 2007-2008 alone, it rose 596% (Irish, 2010)." In the World Customs Organization's 2013 report, there were 24 092 reports of seizures of intellectual property-offending goods, and more than half of these were related to illegal pharmaceuticals (WCO, 2014).

As described above, the challenges of measuring the extent of the counterfeit medicine trade are numerous. A glimpse of the data available from a large collection of studies also points to the variations across drugs and countries over time. Table 4.1, below, depicts the share of anti-malarial medication that failed chemical assay analysis in Africa.

Table 4.1. Percentage of anti-malarial medication that failed chemical assay analysis in Africa

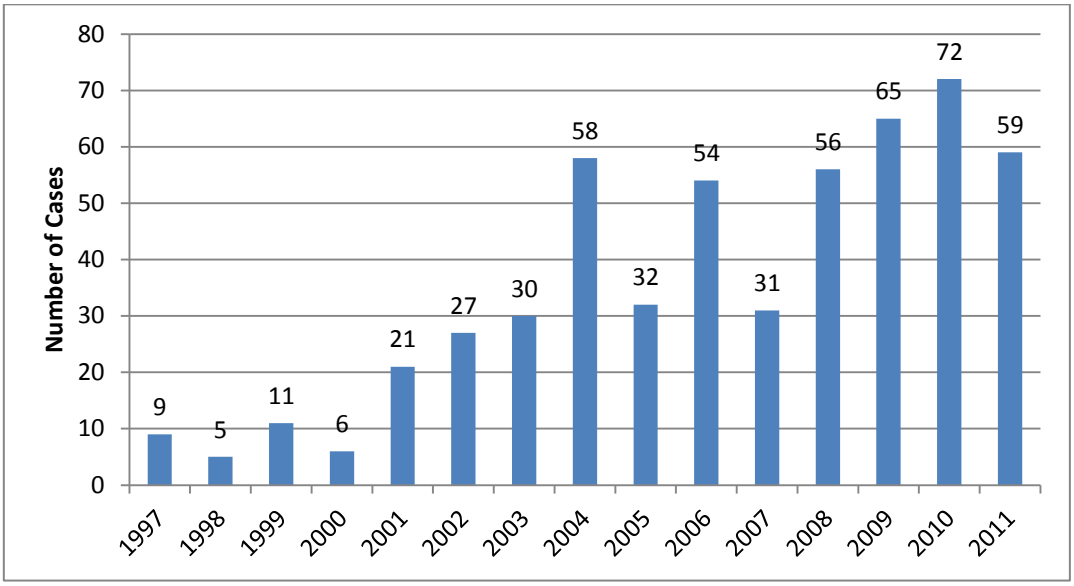
Location	Date of sample collection or study publication	Failed chemical analysis
Uganda	2001	57 out of 92 (62%)
Cameroon	2001	112 out of 284 (39%)
Kenya	2002	47 out of 116 (41%)
Kenya	2001-2005	11 out of 41 (27%)
Lao People's Democratic Republic	2003	27 out of 30 (90%)
Kenya and Democratic Republic of the Congo	2004	9 out of 24 (38%)
Burkina Faso	2006	32 out of 77 (42%)
Madagascar, Senegal, Uganda	2008	64 out of 197 (32%)
Nigeria	2009	60 out of 225 (27%)
Burkina Faso, Chad, Cameroon, Democratic Republic of the Congo, Ghana, Kenya, Nigeria, Rwanda, Senegal	2002-2010	35 out of 59 (59%)

Source: UNODC (2013), "Transnational organized crime in East Asia and the Pacific: A threat assessment," April 2, p. 132. United Nations Office on Drugs and Crime, Vienna, www.unodc.org/documents/data-and-analysis/Studies/TOCTA_EAP_web.pdf.

It is critical to recognise that the problem of counterfeit medicine extends to both innovative branded and generic versions of prescription drugs, as well as to over-the-counter (OTC) medicines. In a May 2014 interview, Samuel Louis, former deputy criminal chief for the US Department of Justice, described the first US investigations into OTC drug fraud, stating, "in the last six months, there have been two instances of counterfeit OTC sites being investigated, one in New York and one in Texas. We hadn't seen this before, but it seems to be on the rise." Louis described an individual with ties to China who was manufacturing large quantities of medicines, including OTC drugs, in an upscale Texas neighbourhood. He continues, noting that local manufacturing and the unlikelihood of consumers to report failed treatment "due to the placebo effect of the less serious nature of an OTC drug not working" handicap the battle against pharmaceutical counterfeiting (Stanton, 2014a).

Nevertheless, it is clear that the problem is increasing and has become increasingly widespread, as evidenced by Figure 4.1 below. The FDA has investigated an increasing number of cases since 1997. According to the FDA, the most commonly investigated products are solid oral dosage forms (pills, tablets). The top five brand-name products implicated in the ten highest-volume cases have been identified (USDFA, 2011a). Although limited to the cases opened by the US Food and Drug Administration's Office of Criminal Investigations, the data are indicative of a global trend.

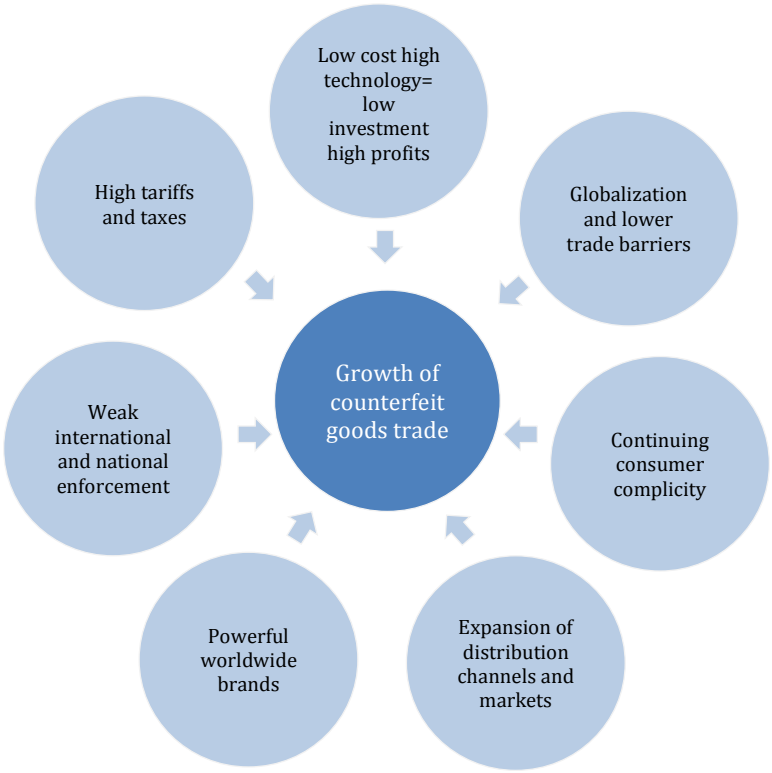
Figure 4.1 Counterfeit drug cases opened by FDA's Office of Criminal Investigations per fiscal year



Source: Bernstein, Ilisa B.G. (2012), "FDA Efforts: Counterfeit Drugs," Director, Office of Compliance, Center for Drug Evaluation and Research, US Food and Drug Administration, APhA Annual Meeting, New Orleans, www.fda.gov/ucm/groups/fdagov-public/@fdagov-afda-orgs/documents/document/ucm299777.pdf.

The growth of the counterfeit goods trade generally, and the counterfeit medicines trade in particular, can be traced to a number of factors. According to the work of Chaudhry and Zimmerman, Figure 4.2 below concisely depicts a number of these contributing features. While these characteristics generally apply to the trade in counterfeit goods, several of the specific factors that are particularly important to the trade in counterfeit medicines are omitted. These would include: governance issues, consumer awareness and education, and the rise of internet sales. The factors most important to counterfeit medicines specifically are explored in depth below.

Figure 4.2 Factors that affect the counterfeit trade of drugs



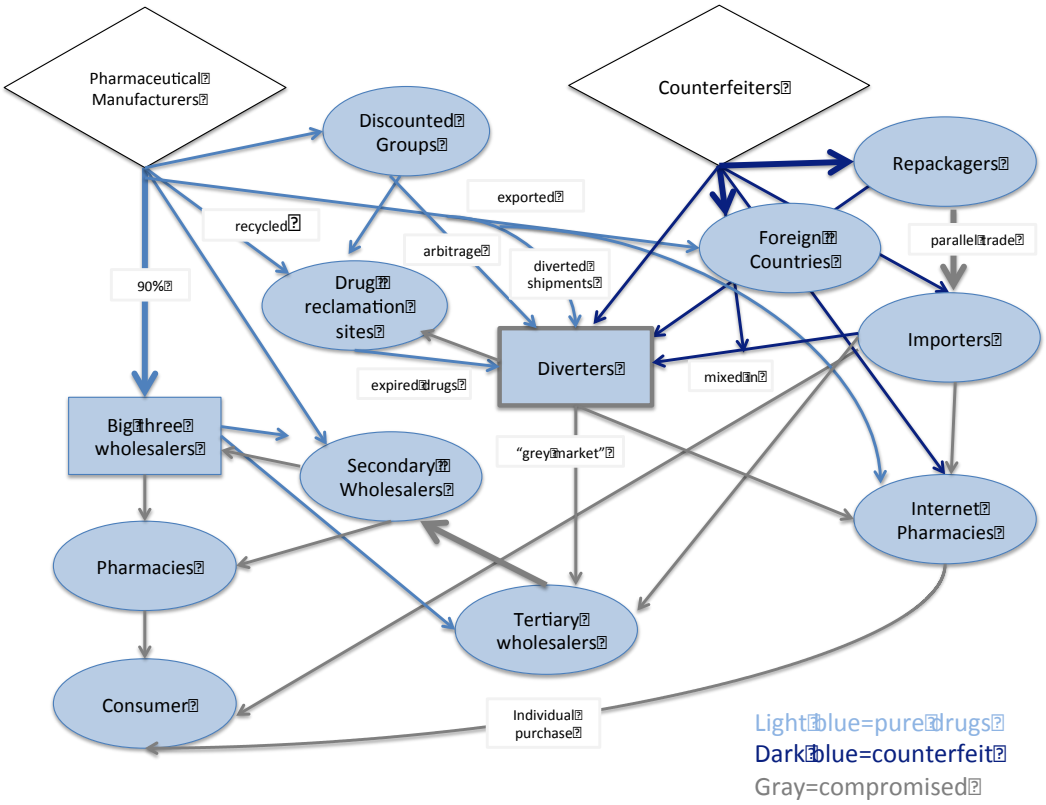
Source: Chaudhry, P.E. and A. Zimmerman (2013), *Protecting Your Intellectual Property Rights: Understanding the Role of Management, Governments, Consumers and Pirates*, Springer, New York, p.23.

In the case of the market for pharmaceuticals specifically, the prevalence of counterfeits may also be traced to the complicated configuration of the supply chain. Figure 4.3 points to the convoluted nature of the legal, and highly regulated, US pharmaceutical supply chain and distribution system. Counterfeiters succeed in this context by fragmenting the supply chain as much as possible through secondary wholesalers,[4] who are less conscientious about the sourcing of their materials than the so-called "Big Five" wholesalers in the United States. While these five wholesalers distribute 90% of the medicines, the remaining 10% pass through a system of smaller secondary wholesalers who are most easily targeted by counterfeiters (USFDA, 2011b). These firms fill demand in cases of spot shortages and also serve as an additional source of revenue for the primary wholesalers through pharmaceutical trading. The loosely regulated secondary market is comprised of about 7 000 firms that purchase excess stock from wholesalers, pharmacies and sometimes unscrupulous brokers (Lybecker, 2008).

As evidenced in the following quote, counterfeiters increasingly use the secondary market to insert bogus drugs into the supply chain, selling to the secondary market at irresistibly low prices. "It is often through a secondary market that counterfeit, adulterated or improperly stored and handled products make their way into the distribution channel. … The secondary market products are generally products purchased from any source other than from the original manufacturer and are commonly referred to as secondary, grey or diverted products. When product comes from the secondary market,

it is difficult to assure patients and health care professionals of the product's quality or safety. (Abbot Laboratories, 2004)" Given that the United States pharmaceutical supply chain is globally one of the most secure, the holes that pervade the US system are worrisome to economies with less-secure supply chains.

Figure 4.3. An example of manufacturing and distribution flows of counterfeit product



Source: Yankus, Wyatt. "Infiltration of US Drug Supply," prepared for the American Council on Science and Health, Counterfeiting Drugs: Coming to a Pharmacy Near You, updated version, 2009, p.6. Reproduced in and sourced from: Przyswa, Eric. "Counterfeit Medicines and Criminal Organizations," report presented by the Institute of Research Against Counterfeit Medicines (IRACM), September 2013, available at www.iracm.com/wp-content/uploads/2014/02/Contrefacon-de-Medicaments-et-Organisations-Criminelles-EN.pdf.

Given the unique nature of the market for ethical drugs, no single entity "owns" the counterfeiting problem. As shown in the above figure, the supply chain is "dismediated." Ethical drugs are prescribed by a physician who never sees them, delivered by a pharmacist who commonly uses multiple wholesalers, in some cases paid for by an insurance company, and consumed by the patient. All of which happens under the control of government regulatory agencies. As a result, counterfeit pharmaceuticals make their way into the supply chain at every link, making ultimate responsibility hard to assign.

While the characteristics that facilitate counterfeiting are most prevalent in the least developed countries, a number of factors increase the risk of counterfeit pharmaceuticals entering the supply chain of developed economies. Specifically, the rise of parallel trade,

product transhipments, free-trade zones, Internet purchases and mail-order prescriptions increase the risk (Lybecker, 2008).

According to the WHO, more than 50% of the medicines purchased over the internet from illegal sites that conceal their physical addresses are counterfeit (WHO, 2010a). A 2008 report by researchers from the European Alliance for Access to Safe Medicines concluded that more than 60% of the drugs sold by online pharmacies are counterfeit or substandard. Of additional concern is the fact that more than 90% of the online pharmacies included in the study did not require an authorised prescription for the purchase of the medicines (Mayor, 2008). This figure is echoed in a recent investigation by the National Association of Boards of Pharmacy which examined 10 400 websites selling prescription medicines to patients in the United States. They found that 97% operated "outside the law, by supplying medicine without a prescription or selling non-FDA-approved and controlled drugs" (Barry, 2014). Finally, additional confirmation of this figure comes from the US-based National Association of Boards of Pharmacy (NABP). Of the websites identified as "Not Recommended by National Association Boards of Pharmacy in 2014, 99% dispensed prescription drugs without a valid prescription (National Association of Boards of Pharmacy, 2015). The challenge of regulating online pharmacies is immense. According to the National Association of Boards of Pharmacy, at any one time there are approximately 40,000-50,000 active online drug sellers (ASOP, 2014). Moreover, researchers at the University of California San Diego estimate that the largest illegal online drug sellers generate between USD 1 million and USD 2.5 million in sales every month (PhRMA, 2012).

Drawing on data from LegitScript, the Alliance for Safe Online Pharmacies identifies the top ten rogue-friendly registrars on the internet, as seen in Table 4.2 below. Again China appears prominently on the list.

Table 4.2 Top Ten Rogue-friendly Registrars on the Internet

Registrar	Country	Approximate Market Share
TodayNIC	China (People's Republic of)	18
BizCN	China (People's Republic of)	13
Nanjing Imperious	Israel/China (People's Republic of)	12
WebNic	Malaysia	9
Rebel	Canada	7
IPMirror	Singapore	6
Dattatec	Argentina	5
EvoPlus	Canada	5
PakNIC	Pakistan	4
1API	Germany	4

Source: Baney, L. (2014), *The problem of rogue internet 'pharmacies': Risks to public health*, slide deck from the Alliance for Safe Online Pharmacies, safeonlinerx.com/wp-content/uploads/2014/07/ASOP-101-presentation-07-2014.pdf. ***Note:*** The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

As is the case with other counterfeit goods, some free-trade zones are known to be key trans-shipment points for counterfeit medicines. These free-trade zones are characterised by relaxed regulations, which allow counterfeiters to repackage their goods and conceal the point of origin (UNODC, 2013). It is believed that the free-trade zones present entry channels that are then used to penetrate the legitimate supply chain.

Parallel trade also facilitates the penetration of counterfeit medicines into the legitimate supply chain. Parallel trade essentially amounts to a drug that is sold in a given country, which, having moved through the various stages of the ordinary distribution chain, is then again acquired by a major distributor and is returned to the parallel distribution chain. The medicine is then transferred to a different, more lucrative, market by means of parallel intermediaries/distributors. On average it is estimated that a drug within the parallel market may be subject to 20 to 30 intermediary transactions. Not surprisingly, the drawn-out distribution chain creates a problem of verifiability with respect to the source from which each intermediary receives the product. Within the European Union, there is no mechanism for verifying the licenses of parallel importers. In like manner, there is no obligation for anyone within the parallel distribution process to record product batch identification numbers. Given the multitude of hands through which any single product passes, it is basically impossible to trace the trade route and origin of a marketed drug before it reaches the final consumer (UNICRI, 2012).

Given this distribution complexity, parallel trade may pose health risks to patients even in cases that do not involve counterfeit products. For example, given that the batch identification number may have been removed or modified during repackaging, a pharmaceutical company would find it virtually impossible to recall a batch of medicines that, for whatever reason, should not reach the consumer. Through the exploitation of these weak points, counterfeit drugs may permeate the legitimate distribution chain with relative ease (UNICRI, 2012).

The production, sale and distribution of counterfeit drugs are truly a global phenomenon. In the context of a single falsified medicine, the production trail may wind through dozens of countries: the ingredients are produced in multiple locations, the product is manufactured in another, labelling is produced in one country and applied in another, the finished product is routed through numerous countries to disguise the drug's origins, and finally, the product is shipped or reshipped from an economy with a secure pharmaceutical supply chain, to provide the appearance of legitimacy. Intelligence reports note that falsified medicines may change hands more than 30 times before reaching the patient (Lewis, 2009). In discussions with numerous industry experts, security professionals and advocates from patient-safety groups, every individual described a similar process and the frightening complexity of the globalisation of this trade.

As with many other aspects of this problem, it is difficult to pin down the source economies and hubs of the counterfeit medicine trade. Moreover, it is important to recognise that even within the economies most frequently linked to counterfeiters, the authorities in these economies are frequently great assets in the battle against counterfeiting. According to the Pharmaceutical Security Institute, in 2010, the top five origins of counterfeit medicines detected are China (196), India (67), Paraguay (18), Pakistan (14) and the United Kingdom (10). However, as law enforcement and regulatory pressures have increased within China, critical aspects of the production process have moved to other economies, such as the Democratic People's Republic of Korea, Myanmar and Viet Nam (UNODC, 2013).

According to the European Commission's Taxation and Customs Union, Syria has long been a hub for counterfeit medicine trafficking to Europe and the Middle East. Its estimates indicate that 37% of the counterfeit pharmaceuticals seized at European Union borders in 2008 originated in Syria. Europol also notes that the western part of the Balkans is also a hub for counterfeit products originating in China and arriving via the Black Sea through ports on the Adriatic or Ionian Seas (Przyswa, 2013). The case of counterfeit Avastin is illustrative of this complexity. Counterfeit versions of the cancer drug were discovered in the United States in 2012. The origins of the counterfeit version remain unknown, but the falsified medicine passed through Turkey, Switzerland, Denmark and the United Kingdom before making its way into the United States via a Canadian-based firm.

According to the US Department of Homeland Security, the number of intellectual property rights seizures by US Customs and Border Protection continues to grow. In 2012, "Pharmaceuticals/Personal Care" seizures numbered 2 350 (9% of the total), while in 2013, they numbered 2 215 (8% of the total). The Manufacturer's Suggested Retail Price (MSRP) for this commodity class was USD 82.99 million (7% of the total) in 2012 and USD 79.6 million (5% of the total) in 2013. The executive summary for 2013 notes that while the People's Republic of China remains the principal source economy for counterfeit and pirated goods, seizures were made from 73 other economies during 2013 (United States Department of Homeland Security, 2014).

It is important to examine counterfeiting statistics in light of both the extent of the problem and the effectiveness of enforcement. That is, are more cases reported because the counterfeiting problem is more widespread or because enforcement is more effective? When it comes to counterfeiting data, this distinction is extremely important, as described by the Institute of Medicine: "The data do not suggest anything about the relative burden of the problem in different countries, however. Indeed, countries with lax enforcement attract illegal manufacturers, and countries with vigorous law enforcement repel them. (IOM, 2013)" A 2007 US Government Accountability Office study points to the limitations of utilising Customs seizure as a measure of the size and growth of the counterfeit market. Variation across locations confirms the uncertainty surrounding prevalence vs. effective enforcement in measures of the extent of the problem. The GAO study reports some ports discovering 100 times the quantity of illicit goods relative to other ports. Notably, only ten ports accounted for fully 25% of seizure value and 84% of penalty cases between 2001 and 2007 (USGAO, 2007).

Finally, evidence of the difficulty in measuring the scope of the counterfeiting problem is visible in the creative methods being utilised. In order to study the success of rogue online pharmacies in the Netherlands, Dutch researchers measured the levels of sildenafil, the active ingredient in a well-known erectile dysfunction treatment, in sewage in three cities in the Netherlands: Amsterdam, Eindhoven and Utrecht. They estimated the consumption of legally dispensed sildenafil from the national dispensary and compared it with that found in the sewage loads, concluding that at least 60% of the sewage loads of sildenafil could not be explained by legitimate prescriptions (Venhuis et al., 2014).

Recent incidents of significant magnitude

In May 2014, INTERPOL-co-ordinated law enforcement agents seized 8.4 million doses of counterfeit and unlicensed[5] medicines in United Kingdom, worth an estimated

GBP 18.6 million. India was the source of 72% of the illicit medicines, and China was the source of another 11% (Hirschler, 2014).

Customs officials in the port of Le Havre, France, discovered more than 2.4 million units of counterfeit drugs in February of 2014. The seizure, the largest counterfeit drug haul discovered to be destined for the European Union, included fake aspirin and anti-diarrheal medicines containing sugar in place of active pharmaceutical ingredients (API) (Stanton, 2014b).

In June of 2012, customs officials in Luanda, Angola, discovered 1.4 million packets of a counterfeit Swiss-made malaria drug. The discovery led to one of the world's largest seizures of counterfeit medicines (Faucon et al., 2013). This discovery echoes other discoveries of counterfeit malaria drugs. A study published in June 2012 by *The Lancet* medical journal found that 35% of malaria drug samples tested in sub-Saharan Africa failed chemical analysis (Nayyar et al., 2012).

In a case in San Juan, Puerto Rico, 23 individuals and three corporations were indicted in a drug diversion case involving more than USD 440 million worth of pharmaceuticals. Between 2007 and 2011, the organisation supplied misbranded, adulterated, sub-potent, improperly handled and counterfeit pharmaceuticals to patients throughout the United States (United States Department of Justice, 2012).

In 2012, two New York pharmacists were discovered to have purchased an estimated USD 274 million worth of illegally obtained, potentially expired HIV/AIDS medications through a counterfeit drug network. The operation had been in existence since 2008 (Interpol, 2014a).

While the incidents reported here are among the most recent and sizeable, numerous sources provide excellent compilations of counterfeiting cases, documented seizures and convincing anecdotal evidence (see the sources cited below for specifics and examples). [6]

Adverse consequences

Adverse economic consequences

The adverse consequences of pharmaceutical counterfeiting are principally felt by consumers, who ingest the spurious drugs, and by the pharmaceutical manufacturers, both innovative branded and generic firms.[7] Again, it is important to note the counterfeiters target all types of drugs: innovative originator drugs, generic, those requiring a prescription and over-the-counter treatments. No medicine is safe from their reach and potential damage.

Squandered health resources

Counterfeit pharmaceuticals may also result in squandered health resources, for the individual patient, for international humanitarian organisations and NGOs and for national government programmes. Counterfeiters divert resources away from genuine treatment, in essence stealing scarce resources from limited health budgets. Counterfeit medicines not only reduce access to efficacious treatments, but endanger existing drug supplies. Regrettably, the lower prices of the counterfeits encourage purchases by both consumers and health providers. In a study of fake antimalarial drugs in Cambodia, researchers found that "fakes were frequently preferred by patients and village health providers because of the lower price" (Rozendaal, 2001). For the majority of pharmacies

in developing countries, their "budgets are tight, and they buy any drugs which are cheap. In rural areas, chronic drug shortages sometimes beg the question whether to take the risk even with suspected counterfeits" (VSO, 1998).

The potential wasted resources are a significant burden on families, especially in poor countries. In the poorest economies, where medicines rank second only to food as a household expense, resources devoted to spurious medicines come at tremendous opportunity cost. In addition, the increased burden of additional treatment can impose significant hardship (Cameron et al., 2008).

Unfortunately, not even the largest and most cautious actors on the global stage are immune to the threat of counterfeit medicines. The problem permeates drug donations and purchases by the world's biggest charitable organisations. In November 2013, the World Health Organization issued a drug alert addressing falsified batches of a fixed dose artemisinin-based therapy used to treat malaria being circulated in Cameroon. At least four batches of the counterfeit version were identified, some of which featured the logo of the Affordable Medicines Facility, a malaria programme financed by the Global Fund (The Global Fund, 2013). Counterfeiters insert their drugs into the supply chain at every opportunity, even when drugs are sold at cost to humanitarian organisations.

To the pharmaceutical industry

Lost sales and revenues: While the greatest concern of the pharmaceutical industry is the damage counterfeiters do to patient health and well-being, the damage translates into economic terms as well. For the pharmaceutical industry, counterfeiters most directly threaten product sales and revenues. Consider the following case from China, "a flood of unauthorised copies of a drug produced by an international pharmaceutical company caused a drop in annual sales in China to about USD 242 000. After counterfeiting was halted, sales reportedly climbed to USD 1.2 million" (Beach, 2001). In 2003, the estimated annual turnover of India's pharmaceutical industry is approximately USD 4.2 billion, but counterfeiters rob legitimate producers of close to USD 1 billion annually (BBC News, 2003). The National Association of Boards of Pharmacy calculate that counterfeit drugs generated an estimated USD 75 billion in revenue in 2010 (Gillette, 2013). In El Salvador, INQUIFAR, the association of pharmaceutical companies, has denounced the extensive availability of counterfeit drugs in the domestic market. According to a local manufacturer, counterfeit medicines currently generates economic losses of around USD 40 million per year to the country's pharmaceutical industry (WHO, 2006). In addition, in Indonesia, the International Pharmaceutical Manufacturers Group (IPMG) estimates that pirated drugs constitute 25% of Indonesia's USD 2 billion pharmaceutical market. "According to IPMG's vice chairman, those fake drugs hit foreign pharmaceutical companies' bottom lines and pose a potential serious public health threat. (WHO, 2006)" Finally, the Association of Colombian Pharmaceutical Industries (ASINFAR) estimates that nearly 5% (USD 60 million) of a total of an annual USD 1 300 million, stem from contraband, counterfeiting or adulteration (WHO, 2006).

In this context, it is essential to recognise that it is impossible to know the extent of economic damage done by pharmaceutical counterfeiters. Given that counterfeit versions are frequently sold at prices much lower than legitimate medicines, additional information about the price sensitivity of consumers is required before one can determine whether each purchase of a counterfeit drug would have been a legitimate sale under

other circumstances. In like manner, a calculation of lost revenue is also impossible to come by.

Additional costs of security and anti-counterfeiting technology: In addition, counterfeiting raises the costs of legitimate pharmaceutical manufacturers, by forcing them to incorporate anti-counterfeiting technologies into their products and packaging. Firms will incorporate overt, covert and forensic technologies as necessitated by the risk and sophistication of counterfeiters. Many firms also monitor their products in the markets of counterfeit-prone countries and conduct their own investigations into reported counterfeiting incidents. As noted in a recent report by the Institute of Medicine, multinational pharmaceutical companies have invested in security departments that work globally with regulators and law enforcement agencies. These departments collect 80% of the evidence used in criminal prosecution (IOM, 2013). For example, a tip from Pfizer led to an investigation in China that dismantled an operation that spanned 11 economies, including those of United Kingdom, the United States and Israel (Sommerville, 2005). As this incident shows, counterfeiters may also threaten sales in other markets through parallel imports, transhipment and internet sales (Lybecker, 2007).

Reputational damage and liability: For the legitimate pharmaceutical firm, not only are revenues reduced and costs increased by counterfeiters, but the firm risks unquantifiable damage to brand and reputation. Essentially, there is an externality associated with counterfeiting that is borne by the pharmaceutical firm, which others in the supply chain do not account for. While no one entity "owns" the problem of pharmaceutical counterfeiting, the pharmaceutical manufacturer bears the additional cost of reputational loss. Counterfeiting puts the firm's reputation for safety and quality at risk and subjects it to potential liability if consumers are harmed by counterfeit versions of their drugs. In a study on internet piracy and copyright enforcement, the authors find that the "coincidence of consumer and (innovative) firm interests informs who should bear the costs of enforcement. Since enforcement is in the interest of both parties, private enforcement by the firm through civil penalties is inadequate. (Harbaugh and Khemka, 2000)" In essence, consumer surplus is likely to be increasing in enforcement. Given that consumers benefit from added enforcement, private enforcement is inadequate. The same is probably true of pharmaceutical counterfeiting (Lybecker, 2008).

"Legal scholars have begun to suggest that manufacturers may have an obligation under civil tort law to take steps to prevent counterfeiting . . . [Further, they] may be held liable for injuries suffered by innocent purchasers of the defective product imitations if certain conditions are met. (Kontnik, 1998)" These conditions would include: *i)* if the counterfeiting and injury were foreseeable, *ii)* the firm had a role in creating the risk, and *iii)* it failed to take reasonable action to reduce that risk (LePark, 2002).

Decrease in innovation: The prevalence of counterfeit medicine will also impact pharmaceutical innovation. First, counterfeiting reduces the resources available to the firm for research and development.[8] Recent estimates place the fixed costs of drug development at more than USD 2.6 billion (Tufts Center for the Study of Drug Development, 2014). Granted, this is a highly controversial number, but even if the cost is half that amount, it remains a significant investment. The development a new drug is an inherently risky and expensive venture. If the potential returns on this investment are reduced by counterfeiting, it is not surprising that the incentives to invest are also reduced. The prevalence of pharmaceutical counterfeiting will decrease work on the diseases endemic to these areas.

This problem is particularly pronounced in developing countries. Diseases endemic to regions with high levels of counterfeiting are less attractive research targets. Counterfeiting reduces the profitability of developing country markets, curbing the incentives to target research and developing funds to diseases endemic to poor countries and making it very difficult to attract foreign investment. Sadly, less than 10% of global health research expenditures are dedicated to conditions that account for more than 90% of preventable mortality, conditions that are most prevalent in developing economies. Consider that of the "1 556 new drugs approved between 1975 and 2004, only 21 (1.3%) were specifically developed for tropical diseases and tuberculosis, even though these diseases account for 11.4% of the global disease burden" (DNDi, n.d.). Notably, five of these 21 drugs emerged from veterinary research (Pogge, 2005). Unfortunately the high prevalence of counterfeiting in these markets reduces their attractiveness even further. Accordingly, research efforts and resources are devoted to other endeavours.

To the government

Pharmaceutical counterfeiting also imposes a variety of costs on national governments. These take primarily three forms: the loss of corporate taxes and VAT paid to the government, the increased regulatory and enforcement cost of securing the supply chain, and the higher cost of health care due to the adverse effects of fake drugs. As in the case of many of the other economic costs of pharmaceutical counterfeiting, it is impossible to calculate the extent of lost tax revenues. Given the extent of the trade, the losses can be assumed to be significant.

Regulatory and enforcement costs: Regulatory and enforcement expenses are also difficult to calculate. In most cases, the expenses associated with the regulation and enforcement of counterfeit pharmaceutical will be included in the overarching budget of the regulatory and enforcement entities. There may be some costs that are separable (see the following example), but by and large, it is impossible to tease out the costs specific to counterfeit goods in general, not to mention counterfeit medicines in particular. However, for some perspective, consider the following description by the Institute of Medicine. Advances in modern science now provide immensely powerful and expensive forensic chemistry techniques that can give investigators information on the unique fingerprints manufacturers leave on their products and packaging. Such an analysis may also provide prosecutors the evidence necessary to tie falsified drugs to particular sources, but at a significant cost. Forensic chemistry assays cost USD 5 000 to USD 15 000 per test on average. While extremely sensitive and accurate, these tests are nowhere practical for routine product quality market surveillance and may be entirely out of reach in the low- and middle-income countries most affected by the pharmaceutical counterfeiting (IOM, 2013). Not surprisingly, these expenses add up quickly, and can be an insurmountable barrier for regulators from poor countries.

Loss of confidence/trust in governments and public health programmes: Genuine harm, even among a small number of patients, can lead to a loss of confidence in government programmes, health care systems and non-governmental health programmes. Incidents of therapeutic failure and drug resistance can destroy the credibility and success of health programmes. As reported in a recent study in *PLoS Medicine*, patients across a range of developing economies have poor perceptions of the health care system, especially the technical competence and clinical skills of the staff and the availability of medicines (Berendes et al., 2011). Counterfeit and substandard medicines will only further undermine consumers' trust.

A delegation from the Institute of Medicine (IOM), on visiting Brazil, heard study participants consistently attribute their lack of confidence in the health care system to unplanned pregnancies following a 1998 lapse in the quality of oral contraceptives (Goering, 1998). The Brazilian drugs regulatory authority, Anvisa, was created in response to this crisis and other medicine quality problems. As noted by the IOM, "Rumors about contraceptive quality linger in Brazil, a kind of urban folklore. They are evidence, however, that fake medicine can do long-term damage to the reputation of the health system. (IOM, 2013)"

Increased health care costs: Counterfeit medicines also result in higher health care costs, as patients may require additional treatment due to the potential adverse effects of spurious drugs. For example, consider the case of a patient who, following a liver transplant, required injections for anemia. After eight weeks of injections, the patient was still not responding to treatment. Upon investigation, the treating physicians discovered that the medicine used was counterfeit. Physicians and health care providers rarely suspect counterfeit or substandard drugs as the reason for a patient's poor therapeutic response. Accordingly, they most frequently respond by ordering more tests or repeating the course of treatment (IOM, 2013)".

Decrease in foreign investment: Finally, the prevalence of counterfeit medicines in a national market may reduce, discourage or prevent foreign investment, as potential investors judge that their interests will not be protected. Though impossible to establish what might have been, the consequences may be significant: lost opportunities for economic growth and development as well as unrealised improvements in the national health care system (UNICRI, 2012).

Additional adverse impacts

Beyond the significant adverse economic consequences of the illicit trade in pharmaceutical counterfeiting, several additional adverse impacts must also be taken into account. It is important to fully recognise the environmental, social, public health and fiscal implications.

Patient health and safety

A significant body of work confirms that counterfeit pharmaceuticals are increasingly prevalent and pose a serious and growing threat to public health, especially in developing countries. While counterfeit drugs are a less visible barrier to affordable access to medicines, they are perhaps a more insidious threat to public health than high drug prices will ever be. Consumers rely on drugs that provide no medicinal value and frequently result in therapeutic failure. The severity of the health risk associated with fraudulent drugs can vary greatly, from inconvenience to unwanted pregnancies to fatality. Tracing illness and death to counterfeit drugs is obviously very difficult, but even the limited evidence available suggests that the scope of the problem is considerable. As noted above in the discussion of the dimensions of the problem, numerous sources provide excellent compilations of counterfeiting cases, documented seizures and convincing anecdotal evidence.[9]

As with many of the statistics and calculations within this work, the scope and cost of the impact of counterfeit drugs on patient health and safety is seemingly impossible to measure. Patients who take counterfeit drugs are subject to prolonged illness, disability, death, treatment failure, as well as the potential for additional complications, depending

on the composition of the falsified medicine.[10] Individuals may also suffer lost income due to absenteeism from work due to their worsening clinical condition or disability.

While estimates do exist, the extent to which they differ is indicative of the measurement challenge presented. INTERPOL estimates that more than 1 million people die each year from counterfeit drugs (Southwick, 2013). While counterfeit drugs seem to primarily originate in Asia, Asian patients are also significantly victimised by the problem. A 2005 study published in *PLoS Medicine* estimates that 192 000 people are killed in China each year by counterfeit medicines (Cockburn et al., 2005). According to work done by the International Policy Network, an estimated 700 000 deaths from malaria and tuberculosis are attributable to fake drugs (Harris et al., 2009). The World Health Organization presents a much more modest number, noting that malaria claims 1 million lives annually and as many as 200 000 may be attributable to counterfeit medicines. This could be avoided if the medicines available were effective, of good quality and used correctly (WHO, 2003). Even this number is double that presented by academic researchers Amir Attaran and Roger Bate, who claim that each year, more than 100 000 people around the world may die from substandard and counterfeit medications (Gillette, 2013).

While definitive estimates are impossible to come by, anecdotal evidence of the harm done to patients by counterfeit medicines is plentiful and may be found in virtually every country. Consider the following examples:

A counterfeit version of the blood thinner heparin was discovered in the United States in 2008. In this case, the counterfeit contained none of the active ingredient, which had been replaced with a cheaper substance that caused patients to have adverse reactions. The result was a nationwide recall of heparin. The medication, whose counterfeit active ingredient came from China, is suspected as the cause of as many as 81 deaths (Toscano, 2011).

More than 500 children around the world died from counterfeit cough syrup that was tainted with ethylene glycol, an industrial solvent, in place of propylene glycol, in pediatric paracetamol formulations (Liang, 2002).

During the meningitis epidemic in Niger in 1995, more than 50 000 people were vaccinated with counterfeit medicine, resulting in 2 500 deaths (WHO, 2013).

As described below, counterfeits can also kill through the resistance they create. Among Rwandan refugees, an outbreak of cholera and bacillary dysentery revealed resistance to multiple first-line antibiotics in clinical isolates of *Vibrio cholerae* and *Shigella dysenteriae* contributed to high death rates (Goma Epidemiology Group, 1995).

In 2010, a Pennsylvania woman pleaded guilty to the illegal importation and distribution of 4 million fake diet pills, containing unapproved drugs and carcinogens. The pills "caused significant side-effects in some individuals, including nausea, vomiting, elevated blood pressure, heart attacks and strokes" (Partnership for Safe Medicines, 2010).

To date, no research has quantified the proportion of child deaths attributable to falsified and substandard medicines. However, a recent report from the Institute of Medicine presents a table linking the most common causes of child death and to verified reports of substandard medicines. Regrettably, the list includes pneumonia and diarrheal diseases, as well as malaria (IOM, 2013).

In September of 2012, the Tennessee Department of Health notified the Centers for Disease Control and Prevention (CDC) about an outbreak of meningitis caused by fungal infection through a contaminated epidural steroid injection from the New England Compounding Pharmacy Center in Framingham, Massachusetts. By early 2013, the CDC traced 693 illnesses and 45 deaths in 19 states to the contaminated drug (IOM, 2013).

In a 2002 incident in Florida, investigators discovered that criminals relabeled up to 110 000 bottles of low-dose Epogen, an anemia drug, to create counterfeit high-dose Epogen and Procrit. As a result, patients received insufficient levels of life-preserving therapy and suffered painful side-effects (Pew Charitable Trusts, 2014).

In December 2011, counterfeit heart medication was given to up to 40 000 patients in Lahore, Pakistan. The drug resulted in the rapid depletion of white blood cells and platelets and led to the deaths of more than 100 patients (BBC, 2012).

Eleven people died in Ontario, Canada, in 2005, after being prescribed a counterfeit version of Norvasc, a Pfizer heart medication, containing only talcum powder (Partnership for Safe Medicines, 2005).

An extensive list of counterfeit medicine incidents is available for review at the Partnership for Safe Medicines website.[11]

Finally, Neal Patel of the Royal Pharmaceutical Society notes that internet sales of counterfeit medicines are characterised by an informational health risk as well: "The user has no information about the ingredients, dosage instructions or potential side-effects, so patients would not be receiving proper health care advice (Wise, 2013)."

Resistance

Counterfeit pharmaceuticals containing a greatly reduced dose of the active constituent unarguably contribute to global microbial resistance and more virulent forms of disease, undermining the fight against infectious diseases. The danger is twofold: actual microbial resistance as well as false reports of drug resistance.

First, anti-infective medicines containing trace or inadequate amounts of the stated active ingredient will engender drug resistance. When pathogens are exposed to sub-therapeutic amounts of active ingredient, the more resistant pathogens will multiply while the susceptible pathogens are eliminated. As a result, future patients will more frequently be infected with pathogens that are resistant to the active ingredient in the poor quality medicine. For diseases that are treated with combination drug therapies, such as HIV, TB and malaria, when one active ingredient is present in inadequate concentrations, the pathogens also risk becoming co-resistant to the partner drugs (Newton, 2012). In the case of anti-malarials, the evidence "strongly suggests that under-dosing is an important contributor to resistance. Therefore if patients consume co-circulating falsified and substandard medicines sequentially, so that heavy parasite burdens encounter low drug concentrations, the risks of engendering resistance are high" (Newton et al., 2014). Moreover, the use of counterfeit anti-malarials, and the subsequent failure of patients to improve, led to false reports of drug resistant strains of malaria (Newton, 2006a).

To put this in perspective, consider the following specific cases. In the case of artemisinin derivative-based combination therapies (ACTs) for malaria, while they once showed great promise for controlling malaria in Africa, poor-quality versions are already widespread on the continent (Bate, 2008; Newton, 2006b, 2008). It is believed that the

wide use of monotherapy, substandard artesunate and fake artesunate containing sub-therapeutic quantities of artemisinin and artesunate in Southeast Asia have probably contributed to the *plasmodium falciparum* artesunate resistance has recently been described on the Thailand–Cambodia border (Newton, 2008). And in the case of HIV, the CDC reports that HIV surveillance sites in 2007 found that 1 in 6 newly diagnosed infections were drug-resistant (Dahl, 2014). In addition, experts believe that the high incidence of typhoid antibiotic resistance in Myanmar may have been caused by the high prevalence of counterfeit and substandard chloramphenicol and cotrimoxazole (UNICRI, 2012). A similar situation exists with tuberculosis. Studies show that poor-quality tuberculosis (TB) drugs are a neglected link between TB treatment, therapeutic failure and the increasing burden of TB drug resistance (Laing, 2004). The XDR-TB strain (extremely drug-resistant tuberculosis) is now confirmed in 49 countries, from Peru to Nepal (Harris et al., 2009). The World Health Organization estimates that 5% of new tuberculosis infections between the years of 2003 and 2007 were resistant to multiple drugs, with the rate as high as 35% in some countries (WHO, 2008).

Labour exploitation

Labour exploitation is also a potential issue, since jobs in the production of counterfeit goods are frequently unregulated and low paid. Working conditions are also questionable, and workers may be placed in vulnerable positions without the enforcement of safety and security regulations (UNODC, 2014). Quality-control processes and verification add expense to manufacture, as does maintaining sterile water filtration and air handling systems (IOM, 2013). Given that these are costs that counterfeiters are unwilling to invest in, it is not surprising that workers suffer the consequences.

Environmental damage

While the legitimate pharmaceutical industry collaborates with the relevant local, state and federal agencies to comply with environmental regulations and reduce the environmental impact of the research and manufacturing process for new medicines, the same does not hold true of counterfeit manufacturers. As legitimate producers work to lessen their environmental footprint, counterfeiters reap the financial benefits of dirty production, taking every environmental shortcut imaginable. In the context of manufacturing, counterfeit producers disregard the impact that chemical compounds may have on the environment: disposing of toxic dyes and chemicals without regulatory oversight, as well as ignoring the treatment of wastewater streams.

In addition, the increasing volume of seized counterfeit goods presents an environmental challenge, since destruction may be a costly, waste-generating process (OECD, 2007). Authorities note that seized counterfeit electronic goods and counterfeit chemicals and pharmaceuticals are particularly difficult to dispose of in an environmentally friendly manner (Soentgen, 2012, UNODC, 2015). Consider the numbers from the European Union alone. In 2011, customs authorities seized more than 115 million counterfeit items, a 15% increase in goods seized over 2010. Ultimately, over 75% of these items were destroyed, clear evidence of the magnitude of the challenge of disposing of counterfeit goods (Soentgen, 2012). Not surprisingly, the environmental costs of counterfeiting are often underestimated.

Policy responses

At a fundamental level, many economies rely heavily, if not exclusively, on existing legislation to combat the trade in counterfeit medicines. Most frequently enforcement authorities rely on criminal laws and intellectual property rights laws. Unfortunately, this is woefully inadequate. "Rather than examining pharmaceutical crime as a specific type of crime requiring specialised legislation, many countries continue to place it under the category of intellectual property crime or use existing criminal law on narcotics or fraud. As a result, [a significant proportion of experts believe that] countries do not possess the necessary legal apparatus to effectively target the issue, while others argued that penalties were far too low for the offences committed. (Interpol, 2014)" As noted in *The Lancet*, "there is no global system for the mandatory reporting, assessment and dissemination of information on suspicious medicines. … It is extraordinary that, in 2014, such systems are widely in place for suspicious aircraft parts, but not for suspicious medicines. (Newton et al., 2014)"

A review of existing public policies is complicated by the secrecy that surrounds such programmes, especially the successful ones. This review examines efforts that may be considered "great successes" and also describes policies that hold "great promise". The extent to which these policies may be adopted or implemented by other agencies and in other places remains unknown. Overall, two recommendations clearly emerge as priorities in combating counterfeit medicines: more extensive information sharing across agencies and economies, and the development and adoption of an international public health treaty.

Great successes

Nigeria's NAFDAC

The most prominent success story in the fight against counterfeit medicines is that of Nigeria and its National Agency for Food and Drug Administration and Control (NAFDAC). The agency is a pioneer in the fight against spurious medicines in West Africa. When Dora Akunyili assumed the position of Director-General of NAFDAC in 2001, an estimated 80% of the medicines sold within Nigeria were counterfeit or substandard. In 2002, within the six principal drug markets across Nigeria, 68% of medicines were unregistered by the agency. The study was repeated in 2003 with an 80% reduction in the number of unregistered medicines. By 2006, the share of counterfeit drugs had dropped from 41% (2001) to 16% (2006) (UNICRI, 2012).

The efforts to combat pharmaceutical counterfeiting in Nigeria began with a single policy: restricting pharmaceutical imports to only two airports and two seaports, each staffed by NAFDAC officials. This was followed by the discovery of several Chinese and Indian drug manufacturers suspected of producing and exporting fake drugs in Nigeria, which resulted in the termination of the importation of those products. NAFDAC then established independent contracts with regulatory authorities in China and India to oversee exports to Nigeria.

As described by UNICRI, the efforts undertaken since 2001 have markedly improved the security of the Nigerian pharmaceutical supply chain, including: "meticulous border controls; drafting of prohibition lists regarding substances' import; accompanying certification documents for imported drugs; raids to assess the quality of the medicines

produced and distributed; and the boost of the national pharmaceutical industry, both improved the situation within Nigeria, as well as the image of the country abroad. (UNICRI, 2012)." Today, every medicine produced and circulated within the country bears a registration number in order to verify authenticity, and domestic pharmaceutical producers are now held to strict manufacturing requirements.

Nigeria's success stands in stark contrast to much of the rest of Africa. The World Health Organization estimates that a mere 7% of sub-Saharan economies have a "moderately functioning MRA" (Medicines Regulatory Authority) (Newton et al., 2014).

Operation Pangea

The INTERPOL-co-ordinated Operation Pangea is a rare example of inter-agency co-ordination resulting in success. Operation Pangea VII included close to 200 enforcement agencies across 111 countries[12], targeting the individuals and criminal networks operating illicit online pharmacies to sell counterfeit medicines. The operation produced 237 arrests worldwide and the seizure of 9.4 million fake and illicit medicines (valued at nearly USD 36 million). In addition, 19 000 advertisements for illicit pharmacies via social media platforms were removed, more than 10 600 websites were shut down and 1 235 investigations were launched (Interpol, 2014). "Operation Pangea VII was co-ordinated by INTERPOL, with the World Customs Organization (WCO), the Permanent Forum of International Pharmaceutical Crime (PFIPC), the Heads of Medicines Agencies Working Group of Enforcement Officers (WGEO), the Pharmaceutical Security Institute (PSI) and Europol. The operation was supported by efforts from MasterCard, Visa, Microsoft, PayPal, G2 Web Services and LegitScript. (Imber, 2014)"

While the operation is an undeniable success, it can only be considered a short-term fix. The battle against illicit online pharmacies in an ongoing one. As noted by Ilisa Bernstein, director of the Office of Compliance in the FDA's Center for Drug Evaluation and Research. "This is a drop in the bucket. We don't know how many websites are out there, but there are a lot more. We may have some impact on [these websites], but they can pop up days or weeks later using another URL and another way to deceive consumers. (Shelton, 2012)"

However, the importance and value of sharing information internationally across agencies cannot be overestimated. As described by the recent report of the Institute of Medicine, "the modern pharmaceutical supply chain is complex. Drug manufacturers source chemicals from around the world, and different factories process ingredients into a final formulation that is packaged, repacked and sold in many different countries. The chances that a drug quality problem in one country affects that country alone decrease when products travel along global supply chains. The interconnectedness of the drug supply chain makes it imperative that countries share information on falsified and substandard drugs. (IOM, 2013)"

Uganda's community health workers

Two village-level organisations in Uganda, Living Goods and BRAC, equip community health workers with a supply of medicines to sell to the community. Using a micro-franchising business model similar to that of Avon Ladies, local women receive training and then purchase a bag of medicines to sell to their neighbors. Remarkably, these sales seem to reduce other retailers' sale of counterfeit drugs. In an evaluation of the malaria medicines sold by pharmacies in four districts in which BRAC and Living Goods

operate, the Abdul Latif Jameel Poverty Action Lab at MIT,[13] found that before the arrival of the community health workers, 37% of pharmacies sold counterfeit malaria drugs, and approximately 20% of drugs sold were fake. However, after BRAC and Living Goods arrived and the villages gained access to reliable medicines, the quantity of counterfeit or substandard drugs sold in pharmacies fell by 50%. "You can get away with selling fake or low quality drugs, because villagers have nothing to compare it to," said Yanagizawa-Drott, one of the study's authors. "When an NGO comes in and sells a high-quality drug – there is now some ability for consumers to observe quality. (Rosenberg, 2014)"

Product verification technology

Sproxil was founded in 2009 to empower consumers to avoid counterfeit drugs with a simple text message. They now operate in five countries across three continents. Sproxil founders recognised two facts: first, the trade in counterfeit medicines is worse in developing economies where regulatory oversight is limited and enforcement resources are scarce; second, mobile phone technology has been enthusiastically embraced, especially in emerging markets. Taking account of both, Sproxil's Mobile Product Authentication (MPA) provides consumers with the assurance that they are purchasing genuine medicine (Sproxil, 2015).

Prior to purchasing a Sproxil-verified medicine, the consumer scratches off a label to reveal a unique code that can be texted to a toll-free number. Seconds later, a text message response either confirms that the medicine is real or alerts the consumer that the product is counterfeit. Sproxil has produced tens of millions of scratch-off labels for large pharmaceutical firms operating in India and Africa, and claims close to 15 million product verifications. While a mere 10% of consumers actually text for verification, Sproxil reports that "sales of the drugs it verifies tend to go up, probably because consumers are more confident that they are getting the real thing. This innovative strategy is not known to have led to the shutdown of any counterfeit drug manufacturers, who can easily move their fakes to new stores or copy different products. (Hoffman, 2011)" However, Nigerian inspectors report that they are finding fewer counterfeit drugs on pharmacy shelves since Sproxil was introduced. Nigeria now requires verification for all malaria medicines.

Additional policy options are emerging as technology advances to combat counterfeiting. In April 2013, the US Food and Drug Administration announced that it would begin testing a handheld device, CD-3, to detect counterfeit and substandard malaria drugs in Africa. The device detects product quality by illuminating the drugs with a variety of wavelengths of light, allowing for the detection of differences in both products and packaging. Developed by the FDA's Forensic Chemistry Center, the CD-3 has been successfully used in investigations of product tampering, screening cosmetics, foods, medical devices and cigarettes (McCarthy, 2013).

The Medicrime Convention

In October 2011, a dozen countries[14] signed on to the Council of Europe's Medicrime Convention, the first major international treaty to make dealing in counterfeit drugs and devices a criminal offense. The convention, which took three years to draft, requires signatories to have the necessary criminal law in place to detect, enforce and punish such crimes. Accordingly, it is a criminal offense to "manufacture, supply, offer to supply or

traffic in counterfeit medical products; to falsify documents, to manufacture and supply medical products without authorisation; and to market drugs without complying with industry standards". The penalties will be assigned by individual economies. It is hoped that the convention will strengthen international co-operation and information sharing (Watson, 2011). Notably, in the 2014 INTERPOL report on pharmaceutical counterfeiting, numerous European countries positively commented on the Medicrime Convention (Interpol, 2014). In the four years since the signing of the Medicrime Convention, very few countries have adopted it and even fewer have ratified the convention, evidence that this channel for combating counterfeit drugs is likely to face an arduous process.

Wholesaler behaviour

Through strategic contracting and supply restrictions, pharmaceutical manufacturers are also reining in their wholesalers and distributors. In late 2003, one of the main US based pharmaceutical companies decided that it would no longer sell its products (pharmaceuticals or medical devices) to US wholesalers that buy its products from other sources. Their wholesalers must agree to "spot audits of their warehouses and records by its inspectors. ... If company investigators determine that a distributor isn't living up to the agreement, the company would stop shipping its products to the wholesaler. (Hensley, 2003)" This effort was followed in April 2004 by another large US based pharmaceutical company putting in place a policy that requires wholesalers to source all of their product needs directly from it. To facilitate consumer access to approved wholesalers, they then posted the names of those wholesalers who agreed to their Terms and Conditions of Sale on a corporate website (Abbot Laboratories, 2004).

These efforts have had an impact on wholesaler policies as well. In May 2005, one of the "big three" US wholesalers, announced that it would discontinue buying and selling drugs among secondary wholesalers, in effect eliminating its pharmaceutical-trading business. Some observers regard this as an "effort to exit from a business blamed for allowing counterfeit drugs to reach consumers. (Tesoriero, 2005)" Whether these changes are an effort to comply with manufacturer requests or an independent attempt to curtail counterfeiting, the result is enhanced safety of the pharmaceutical supply chain through a closure of entry points for counterfeits (Lybecker, 2008).

WHO's Rapid Alert System

As noted above, "there is no global system for the mandatory reporting, assessment and dissemination of information on suspicious medicines. … It is extraordinary that, in 2014, such systems are widely in place for suspicious aircraft parts, but not for suspicious medicines. WHO's new Rapid Alert System facilitates information sharing on poor-quality medicines between medicines regulatory authorities (MRAs). It should be mandatory and included in the international health regulations. (Newton et al., 2014)"

In order to compile a complete picture of the scope of the problem of counterfeit medicines, thorough and novel surveillance is essential. A surveillance model should promote systematic investigation of drug quality failures to build evidence for changing policy. In light of the increasing complexity, geographic extent and scale of medical products affected, WHO has initiated a project specifically focused on building global capacity for a more systematic approach to the surveillance, monitoring and alerting of Substandard/Spurious/Falsely labelled/Falsified/Counterfeit (SSFFC) medical products.

Following a successful four-month study, completed in ten countries,[15] the World Health Organization refined and improved the system. To date, seven workshops have trained 200 personnel from 80 member states in the use of the system (WHO, 2010b).

Numerous agencies, including the Institute of Medicine, have remarked on the great promise of the system for use in developing countries (IOM, 2013). The WHO describes the long-term objective of the programmes follows: "to significantly improve the quantity, quality and analysis of data on the incidence of SSFFC Medical products through the creation of a global surveillance and monitoring system. The system is designed to provide stakeholders with a sound and validated basis to develop and collaborate on strategies for radically reducing the incidence of SSFFC products, by identifying the vulnerabilities in supply chains, measuring the harm caused and facilitating the more efficient exchange of information between countries in order to protect patients and consumers (WHO, 2010b)"

At the most fundamental level, reports from patients can assist in identifying counterfeit drugs. "For example, a patient on olanzapine, who had taken to polishing his tablets, reported that the colour in the coating was rubbing off. When the drug's ineffectiveness was also deduced, this led directly to identification and action on a major counterfeit operation. (Raine, 2012)"

The Global Steering Committee for Quality Assurance of Health Products

Emerging from the efforts of the Global Fund, the Global Steering Committee (GSC) is envisioned as an effort to harness the collective strengths of multilateral and bilateral organisations, national authorities, non-governmental organisations and manufacturers, to facilitate an enhanced assurance framework for both quality and the integrity of the supply chain of medicines and other health products. At the GSC's inaugural meeting in November 2014, representatives from a number of organisations attended, including Gavi, the Global Fund, the United Nations Development Program (UNDP), UNITAID, the United States Presidents Malaria Initiative (PMI), the United States Agency for International Development (USAID), The United States Food and Drug Agency (USFDA), The World Bank and The World Health Organization (WHO).

Norbert Hauser, the former inspector general of the Global Fund, will serve as the initial GSC Chair. He will oversee the primary functions of the GSC, which fall into four key intervention areas, including: Guidance and Resources, Data Sharing, Knowledge Sharing and Stakeholder co-ordination and Advocacy (The Global Fund, 2015). As is the case with several of the other initiatives described in this section, the Global Steering Committee possesses great potential for significant impact in the battle against counterfeit medicines.[16]

Pharmacy domain

The National Association of Boards of Pharmacy (NABP)[17] is launched the ".pharmacy" domain name, December 2014, in the hopes of establishing a safe place within cyberspace for consumers to purchase and get facts about medications. The NABP has partnered with the International Pharmaceutical Federation (FIP), the Alliance for Safe Online Pharmacies (ASOP), the European Alliance for Access to Safe Medicines, Gilead Sciences, state boards of pharmacy and several large pharmaceutical companies in the domain initiative. "We were approached by various stakeholders in the pharmacy community that saw a problem with rogue [internet] pharmacies and counterfeit drugs,"

explained NABP Executive Director Carmen A. Catizone. "If it's outside the US, then we will have memoranda of understanding or agreements with regulators of countries around the world. And they will vet, for us, the legitimate pharmacies. (American Journal of Health-System Pharmacy, 2014)"

Raising the cost of distributing counterfeit drugs

Anti-counterfeiting strategies can be broadly classified into three categories: technological changes in products and packaging, co-operation across the supply chain, and co-operation in enforcement. The technological adjustments are principally made to make replication more difficult and costly. Co-operation efforts across the supply chain aim to raise the costs of distributing counterfeit drugs and inserting them into the supply chain. Enforcement co-operation seeks to increase the likelihood of detection and the probability of prosecution (Lybecker, 2008).

Given two factors, the "credence goods" characteristics of pharmaceuticals and the sophistication of counterfeits, it is difficult to educate consumers to identify counterfeit drugs.[18] Legitimate producers thus find it difficult to increase the demand for genuine products and to reduce the demand for counterfeits. Consequently, they utilise supply-side strategies. Specifically, they aim to increase one of the two components of the marginal cost of counterfeiting: the constant cost of production and distribution of counterfeit drugs, the probability of detection and the monetary penalty. The following examples are illustrative of these efforts, as pursued through a variety of means (Lybecker, 2008).

- Consumer groups in India have pressured Parliament to change the penalty for counterfeiting to the death penalty (BBC News, 2003).
- In Cambodia, strategies against counterfeit anti-malarials consisted of "public warnings describing fakes … a poster and radio education campaign has educated patients to distinguish fake tablets (Newton et al., 2002)".
- The Nigerian government has joined with registered manufacturers to destroy expired medicines, preventing counterfeiters from using them and raising the cost of obtaining authentic-looking packaging (Naik, 2004).
- Dora Akunyili, the head of Nigeria's National Agency for Food and Drug Administration and Control (NAFDAC), has used high-school essay contests to publicise the dangers of counterfeit drugs (Naik, 2004).

Need for an international public health treaty

Remarkably, the production of counterfeit medicines or medical products is not an international crime, and current definitions and laws are inconsistent. An international public health convention or treaty would greatly benefit law enforcement authorities in combating criminal networks and counterfeiting operations. The lack of consensus and a legally binding force inhibits true progress. [19]

Links to transnational organised crime

As is the case with many of the most critical elements of this paper, more is unknown than is known about the links to transnational organised crime. Anecdotal evidence of the

link is quite plentiful, but the illegal nature of the business, as well as the secrecy maintained by law enforcement, make it virtually impossible to fully understand, not to mention measure, the extent of the trade. A 2014 INTERPOL study provides the most up-to-date information and comprehensive perspective on pharmaceutical crime and organised criminal groups. INTERPOL's Medical Product Counterfeiting and Pharmaceutical Crime (MPCPC) Sub-Directorate has prepared an analysis of available data, dating from 2008 to the present, to establish the extent of organised criminal groups' (OCGs') activity in the realm of pharmaceutical crime (Interpol, 2014a).[20]

As acknowledged in the INTERPOL report, there are significant intelligence gaps in the information surrounding the extent of organised criminal involvement in pharmaceutical crime. However, a recent Europol threat assessment concludes that there are "a wide variety of actors, operating within the pharmaceutical crime arena, encompassing both OCGs and individual criminals, both of which are involved at any point in the supply chain" (Interpol, 2014a). It is essential to keep this in mind when reflecting on the primary findings of this and other evaluations of pharmaceutical crime. The primary findings of the INTERPOL report point to the involvement of both traditionally structured hierarchical crime groups as well as highly organised, yet generally informal, networks of illicit online pharmacies and finally, small groups with only 3 to 10 members (Interpol, 2014a).

The results from INTERPOL, as well as from other agencies, do provide some regional perspective. Regional involvement of OCGs was captured as follows:

- In North America and Europe, numerous investigations in the United States, Canada and Sweden have linked biker gangs to the production and distribution of counterfeit medicines, in particular erectile dysfunction (ED) medications and steroids (Interpol, 2014a).
- In September of 2014, police in the European nations of Austria, Belgium, France, Hungary, Slovak Republic, Spain and the United Kingdom co-ordinated a seizure of millions of units of counterfeit pharmaceuticals from China and Singapore worth an estimated USD 13 million. Europol stated that the operation targeted "an organised crime group behind the supply and online distribution of counterfeit medicines – mainly erectile dysfunction pills – and their money-laundering activities. (MacDonald, 2014)"[21]
- According to Alastair Jeffrey, the head of enforcement at Britain's Medicines and Healthcare Products Regulatory Agency (MHRA), criminal gangs have become adept at utilising social media, greater internet access and smartphones to sell so-called lifestyle drugs to a mass market at minimal risk and cost. Criminals have branched out into counterfeit prescription drugs because the profits are higher and the risks are lower relative to narcotics such as cocaine, heroin and cannabis. The director of the International Institute of Research Against Counterfeit Medicines, Bernard Leroy, claims that for every euro invested, criminal gangs can make EUR 200 to EUR 500 (Sample, 2014).
- In May of 2014, Domenico DiGiorgio, director for the prevention of counterfeiting at the pharmaceutical watchdog Italian Medicines Agency, asserted that a highly organised criminal ring is responsible for the distribution of stolen and counterfeit cancer drugs throughout Western Europe. Contaminated vials of Roche Holding AG's cancer drug Herceptin reappeared in the United Kingdom,

Germany and Finland after being stolen in Italy. The criminal ring is believed to involve the Camorra (an Italian organised crime syndicate originating in Naples), as well as Russia-based Eastern European networks. "One pharmaceutical company official said that, on average, five cargoes of the company's products disappeared every month in Italy, with truck drivers offering what he termed hazy explanations for the incidents. (Faucon and Plumridge, 2014)"

- In November 2013, Canadian authorities began an organised crime investigation named "Project Forseti", targeting two gangs, the Hells Angels and the Fallen Saints (Customs Today Report, 2015). In January of 2015, police in the provinces of Saskatchewan and Alberta seized guns and drugs, including significant amounts of counterfeit oxycontin. The counterfeit versions of oxycontin have been traced to at least three deaths (CBC News, 2015).
- In the context of South and Central America, all respondents to the INTERPOL questionnaire indicated a growing number of active groups, cases, seizures and arrests since 2008 (Interpol, 2014b). In Mexico, dating as far back as 2001, law enforcement officials have believed that "most, if not all, of the pharmacies located along the [US-Mexican] border, are owned and operated by Mexican organised crime groups. In Latin America, crime syndicates bring together manufacturing and printing skills and often link them with existing pharmaceutical distributors. (Christian, 2001)"
- In Eastern Europe, OCGs are seemingly increasingly involved in the manufacture and supply of doping substances (Interpol, 2014a).
- Not surprisingly, the greatest OCG activity appears to be in Asia. The INTERPOL report describes numerous incidents. In 2009, an OCG with likely Triad connections distributed counterfeit ED medications, operating primarily through local nightclubs and brothels in Malaysia. In 2011-2012, an organised crime group was discovered to be responsible for delivering counterfeit and diverted human growth hormone products to numerous local subcontractors in China. In 2013, law enforcement identified a counterfeiting operation based in China that shipped cargo to Jordan from where it was distributed around the Middle East (Interpol, 2014a). The OCG connection dates back more than a decade. In India, according to Ranjit Roy Chaudhury, president of the Delhi Society for the Promotion of the Use of Rational Drugs, it "started as a cottage industry, but others found it to be easy money, and now there are highly organised cartels involved". Moreover, Dilip Shah, secretary general of the Indian Pharmaceutical Alliance notes that "some local drug manufactures make legitimate products during the day and run a night shift to make counterfeits. (Saywell and McManus, 2002)"

The problem is further complicated by possible collusion between drug regulatory officials and manufacturers of fake medicines. According to Ranjit Shahani, president of the Organization of Pharmaceuticals Producers of India, "the makers and distributors of fake drugs get tipped off just before raids, and all evidence vanishes. (Madur, 2003)"

A 2012 study by the United Nations Interregional Crime and Justice Research Institute (UNICRI) suggests that criminal networks use similar routes and methods to transport counterfeit medicines as they do to traffic in drugs, firearms and people (UNICRI, 2012). According to both Europol and UNODC, evidence suggests that OCGs involved in the production of synthetic drugs are able to easily access the materials and

expertise needed to also produce counterfeit medicines. In both Europe and Southeast Asia, authorities cite evidence of "criminal manufacturers of amphetamine-type substances [that] have been involved in the production and distribution of counterfeit medicines (Interpol, 2014a).

Finally, it is impossible to ignore the question of correlation or causality. A recent study on the theft of medicines from Italian hospitals notes that between 2006 and 2013, 1 in 10 Italian hospitals experienced a theft of pharmaceuticals. The study notes, "Southern Italy and the eastern Italian regions are more exposed to thefts of medicines because of the greater activity of organised crime groups – both Italian mafia-type and foreign OCGs, especially Eastern European ones – and their proximity to Eastern Europe and Greece, which appear to be destinations for stolen goods". Using the Mafia Presence Index, the authors claim to find a positive and statistically significant correlation between thefts and the presence of mafia groups (Riccardi et al., 2014). While the finding is suggestive, it is impossible to definitively specify whether this is an issue of correlation or causality.

While the INTERPOL report identifies several concerning trends, it is important to emphasise that the report's bottom line is that "there is no conclusive evidence of an established connection between OCGs operating with in the pharmaceutical crime area and terrorism" (Interpol, 2014a).

Conclusions

Globalisation and international trade agreements have greatly contributed to the interconnectedness of national economies and supply chains. While these factors and advancing technology have facilitated the globalisation of pharmaceutical counterfeiting, firms have turned to managing co-operation across each link of the supply chain, as well as across national boundaries, to establish legitimacy in every market and stem the flow of counterfeit products (Lybecker, 2008). The battle is not theirs alone.

As this report starkly illustrates, counterfeit pharmaceuticals are increasingly prevalent and increasingly profitable. In addressing the threat of counterfeit drugs, there is obvious scope for benefiting both consumers and international pharmaceutical firms. Acknowledging the problems and challenges of pharmaceutical counterfeiting has benefited all stakeholders, because it allows them to better partner with governments, health advocates and other anti-counterfeiting stakeholders. In light of the more public and more aggressive campaign against counterfeiting, it is important to examine extent of the problem, what is known about counterfeit production and distribution and links to organised crime and the policy responses that have been particularly effective.

This paper has reviewed each of these elements in turn and concludes with three modest points. First, a great deal remains unknown and unmeasurable. Irrespective of the anti-counterfeiting policies under consideration, better data would be invaluable. Investments in mechanisms and methodologies that would facilitate such collection should be a priority. Second, efforts should be made to encourage more extensive information sharing across agencies and nations. The value of co-operative efforts cannot be overstated. The greatest victories in the battle against counterfeiting come with successful co-operation and the largest failures may frequently be traced to its absence. Finally, the development and adoption of an international public health treaty would be a significant step toward protecting patients and public health globally. Universal consensus on the reprehensible nature of counterfeit medicines and agreed-upon legal

norms could be a tremendous weapon in defeating counterfeit manufacturers and distributers.

Annex 4.1

As noted above, the definition of a counterfeit drug will vary across countries and law enforcement authorities. To illustrate, the following text from the World Health Organization is included. These paragraphs are taken from the WHO website posting on "General information on counterfeit medicines". (www.who.int/medicines/services/counterfeit/overview/en/)

Definitions of counterfeit drugs by WHO member states

The following definitions by WHO member states demonstrate that the nature of the problem of counterfeit drugs varies from country to country. In some countries, the issue is more complex and there is no distinction between counterfeit and substandard drugs.

Available reports indicate that in developing countries a wide spectrum of types of counterfeit drugs, ranging from the precise copy of a genuine product to the extreme case of a drug product with none of the correct active ingredient exist. Consequently, counterfeit drug is defined broadly in order to cover drug products that have been copied or forged, as well as certain substandard products, particularly those intentionally made to be substandard.

In the Nigerian Counterfeit and Fake Drugs and Unwholesome Processed Foods (Miscellaneous Provisions) Decree; a fake drug is defined as:

- "any drug product which is not what it purports to be; or
- any drug or drug product which is so colored, coated, powdered or polished that the damage is concealed or which is made to appear to be better or of greater therapeutic value than it really is, which is not labeled in the prescribed manner or which label or container or anything accompanying the drug bears any statement, design or device which makes a false claim for the drug or which is false or misleading; or
- any drug or drug product whose container is so made, formed or filled as to be misleading; or
- any drug product whose label does not bear adequate directions for use and such adequate warning against use in those pathological conditions or by children where its use may be dangerous to health or against unsafe dosage or methods or duration of use; or
- any drug product which is not registered by the Agency in accordance with the provisions of the Food, Drugs and Related Products (Registration, etc.) Decree 1993, as amended."

The Pakistan Manual of Drug Laws defines a counterfeit drug as: ".a drug, the label or outer packing of which is an imitation of, resembles or so resembles as to be calculated to deceive, the label or outer packing of a drug manufacturer."

In the Philippines, the Republic Act No. 82036 refers to counterfeit drug/medicine to mean:

"medicinal products with correct ingredients but not in the amounts as provided there under, wrong ingredients, without active ingredients, with insufficient quantity of active ingredients, which results in the reduction of the drug's safety, efficacy, quality, strength or purity. It is a drug which is deliberately and fraudulently mislabelled with respect to identity and/or source or with fake packaging, and can apply to both branded and generic products. It shall also refer to:

- The drug itself, or the container or labelling thereof or any part of such drug, container or labelling bearing without authorisation the trademark, trade name or other identification mark or imprint or any likeness to that which is owned or registered in the Bureau of Patent, Trademark and Technology Transfer in the name of another natural or juridical person.
- A drug product refilled in containers by unauthorised persons if the legitimate labels or marks are used.
- An unregistered imported drug product, except drugs brought in the country for personal use as confirmed and justified by accompanying medical records.
- A drug which contains no amount of or a different active ingredient, or less than 80% of the active ingredient it purports to possess, as distinguished from an adulterated drug including reduction or loss of efficacy due to expiration."

The United States Federal Food, Drug and Cosmetic Act defines a counterfeit drug as "a drug which, or the containers or labeling of which, without authorization, bears the trademark, trade name, or other identifying mark, imprint, or device or any likeness thereof, of a drug manufacturer, processor, packer, or distributor other than the person or persons who in fact manufactured, processed, packed, or distributed such drug and which thereby falsely purports or is represented to be the product of, or to have been packed or distributed by, such other drug manufacturer, processor, packer, or distributor."

Annex 4.2

Discussion of the Collection of Pharmaceutical Counterfeiting Data by the PSI (Pharmaceutical Security Institute)

Perhaps the best counterfeiting data in the world is in the hands of the Pharmaceutical Security Institute (PSI). While its data is not publicly available, it is worthwhile to examine the source of this data, especially for perspective on the challenges surrounding the collection and analysis of counterfeiting data.

PSI maintains a secure database to which member companies report cases of fraudulent manufacture, mislabelling of drugs and fraudulent packaging. The database is organised into incidents, "discrete event[s] triggered by the discovery of counterfeit, illegally diverted or stolen pharmaceuticals" (IOM, 2013). While incidents can vary in size; sometimes, small amounts of a single product are affected, at other times, large quantities of many products, the PSI exclusively tracks incidents of more than 1 000 units (Kubic, 2015).[22]

As described by Tom Kubic, president and CEO of the PSI, some countries with significant problems never appear in incident reports given an absence of political will for action. On the other hand, some countries with transparent and accountable governments consistently appear in the ranking of numbers of seizures by countries. Based on PSI incident reports, Table 4.3, below, ranks the ten countries most often cited. These nations account for 56% of illegal manufacture, trade, or sale and 47% of diversion cases catalogued in the PSI database in 2011. Every therapeutic class of drugs is represented in the incident reports, though those most often implicated are genito-urinary, anti-infective and cardiovascular drugs (IOM, 2013).

Notably, the data from PSI suggest that pharmaceutical counterfeiting primarily impacts low- and middle-income countries. While North America and Europe are characterised by higher cost of living, higher incomes and greater access to medicines, these regions make up almost two-thirds of the world's combined pharmaceutical sales but account for only a quarter of global trade in illegal medicines. Given that PSI data originate from the investigations of multinational, innovator pharmaceutical companies, one would expect a bias in these data toward developed country markets, the locations where member companies earn the majority of their profits. However, even a cursory examination of the PSI data suggests a significant problem with counterfeit medicines in low- and middle-income countries (IOM, 2013).

Table 4.3. Ten countries most named in PSI incident reports (2011)

Country	Counterfeit	Diversion	Theft	Total Incidents
China (People's Republic of)	504	8	0	512
United States	145	62	8	215
India	95	23	0	118
Brazil	47	47	3	97
Colombia	62	32	0	94
Japan	81	0	0	81
United Kingdom	61	17	2	80
Germany	64	10	0	74
Uzbekistan	35	37	0	72
Pakistan	64	7	0	71

Source: IOM (2013), "Countering the Problem of Falsified and Substandard Drugs", in Gillian J. Buckley and Lawrence O. Gostin (eds.), *Committee on Understanding the Global Public Health Implications of Substandard, Falsified and Counterfeit Medical Products*, Board on Global Health, Institute of Medicine, National Academy of Science, www.nap.edu/catalog/18272/countering-the-problem-of-falsified-and-substandard-drugs, pp. 95-104.

The PSI data are gleaned from member company incident reports, government reporting and open-source documents. This is arguably the most comprehensive global database on counterfeit pharmaceuticals and yet far from what we would hope to have for a thorough understanding of the production and distribution of counterfeit drugs. Regrettably, even the best information leaves much to be desired.

Notes

[1] The expansiveness of this definition is clear in the WHO's materials on Spurious/Falsely-Labeled/Falsified/Counterfeit (SFFC) medicines. According to the WHO's website, "SFFC medicines are found everywhere in the world. They range from random mixtures of harmful toxic substances to inactive, ineffective preparations. Some contain a declared, active ingredient and look so similar to the genuine product that they deceive health professionals as well as patients. But in every case, the source of a SFFC medicine is unknown and its content unreliable. SFFC medicines are always illegal. They can result in treatment failure or even death", available at: www.who.int/mediacentre/factsheets/fs275/en/.

[2] In the context of the WHO's findings in its analysis of counterfeit pharmaceuticals, consider the follow dated, though likely still rather representative, information. "Between January 1999 and October 2000 alone, 46 confidential reports relating to such drugs were received by WHO from 20 countries. About 60% of these reports came from developing countries, whereas the remaining 40% were reported by developed countries. Although the reports received have not been validated and may not be useful for quantitative purposes, the information clearly shows that the problem exists. The data also reflects that only a few countries are willing to provide information about cases detected. The drugs counterfeited included antibiotics, hormones, analgesics, steroids and antihistamines. These drugs form almost 60% of the products reported. In terms of types of counterfeits and their magnitude, the products reported can be grouped into six categories: *i)* products without active

ingredients (32.1%); *ii)* products with incorrect quantities of active ingredients (20.2%); *iii)* products with wrong ingredients (21.4%), *iv)* products with correct quantities of active ingredients but with fake packaging (15.6%); *v)* copies of an original product (1%); and *vi)* products with high levels of impurities and contaminants (8.5%)." Source: World Health Organization (2015), "General information on counterfeit medicines," WHO website posting, available at www.who.int/medicines/services/counterfeit/overview/en/ Last accessed 18 February 2015.

[3] Notably, the demand for over-the-counter drugs is quite elastic. Thanks for an anonymous reviewer for pointing out this important distinction.

[4] According to the US FDA, "Secondary wholesalers generally do not offer a full line of pharmaceutical products but specialize in purchasing and selling selected discounted drug products. Pharmaceutical manufacturers occasionally offer drug products for sale, such as when they strive to meet a quarterly sales goal or wish to sell off inventory in advance of a price increase . . . While any distributor might be able to take advantage of manufacturer sale prices, secondary wholesalers are distinguished by their willingness to risk substantial capital in buying and trading discounted drugs. Their activities are built around the rapid turnover of discounted drugs in a fashion similar to that of discounters in other industries." United States Food and Drug Administration (USFDA). "1.3 Major Categories of Wholesalers," web posting, 25 May 2011, available at www.fda.gov/RegulatoryInformation/Legislation/FederalFoodDrugandCosmeticActFDCAct/SignificantAmendmentstotheFDCAct/PrescriptionDrugMarketingActof1987/ucm256477.htm.

[5] An unlicensed medicine is a medicine or therapeutic agent that is not licensed in the country in which it is being prescribed. In this case, while their sale is illegal in the United Kingdom, they are distinct from counterfeit drugs, in that the product and packaging are exactly what they are supposed to be.

[6] Excellent sources include: Lybecker, K.M. (2000), "Product Piracy: The Sale of Counterfeit Pharmaceuticals in Developing Countries," Doctoral dissertation, Berkeley, California: Department of Economics, University of California, Berkeley, December; United Nations Interregional Crime and Justice Research Institute (UNICRI) (2012), "Counterfeit Medicines and Organized Crime," Turin, 2012, available at www.unicri.it/topics/counterfeiting/medicines/report/Ctf_medicines_and_oc_advance_unedited2013.pdf; Przyswa, Eric (2013), "Counterfeit Medicines and Criminal Organisations," International Institute of Research Against Counterfeit Medicines, September, available at www.iracm.com/wp-content/uploads/2014/02/Contrefacon-de-Medicaments-et-Organisations-Criminelles-EN.pdf; Institute of Medicine (IOM). Countering the Problem of Falsified and Substandard Drugs, Gillian J. Buckley and Lawrence O. Gostin, editors, Committee on Understanding the Global Public Health Implications of Substandard, Falsified and Counterfeit Medical Products, Board on Global Health, Institute of Medicine, National Academy of Science, 2013, available at www.nap.edu/catalog/18272/countering-the-problem-of-falsified-and-substandard-drugs; INTERPOL Pharmaceutical Crime Sub-Directorate. "Pharmaceutical Crime and Organized Criminal Groups: An Analysis of the involvement of organized criminal groups in pharmaceutical crime since 2008," July 17, 2014, available at www.interpol.int.

[7] The following WHO taxonomy "branded" drugs are those that are produced by the innovator company holding the patent (whether expired or not) on the drug. "Generic" drugs are those produced by other, non-innovator, companies either before or after patent expiry.

[8] Admittedly, many experts claim that the industry is crying wolf, exaggerating the impact of pharmaceutical counterfeiting. Unfortunately, given that this calculation relies upon measurements of what might have happened, it is impossible to verify either the industry's or the experts' positions. In this context, it is important to recognise that both parties have a vested interest in their own claims.

[9] Please see the sources mentioned in the earlier footnote for an excellent summary of incidents.

[10] According to C. Legris, as cited by UNICRI, "Side-effects can be classified into six main categories with respect to the presence or not – and if so, to what degree – of APIs (for example, under-dosed antibiotics present bigger chances for the consumers to develop drug resistance with serious repercussions, while total absence of APIs increases the mortality incidence due to complete therapeutic failure); composition-related problems (difference between the APIs contained in the drug and the one illustrated on the package, which will undoubtedly lead to under- or overdose, as the type, combination and/or quantity of the substance indicated on the package does not reflect the

reality); the presence of toxic, chemical or completely inappropriate microbiological substances that are dangerous for the human organism; stability-related problems that are related to the abusive extension of the expiration date of a medicine, which can lead to highly toxic products or to products with considerably decreased therapeutic capacity; excipients' bioavailability-related problems due to an inefficient control of fabrication or miscalculation of the effects of the mixture of the excipients with the APIs; and finally, problems generated by the interaction between the medicines and its container because of the inferior quality of the latter." United Nations Interregional Crime and Justice Research Institute (UNICRI). "Counterfeit Medicines and Organized Crime," Turin, 2012, available at www.unicri.it/topics/counterfeiting/medicines/report/Ctf_medicines_and_oc_advance_unedited2013.pdf.

[11] This information can be accessed at www.safemedicines.org/counterfeit-drug-incident-encyclopedia.html.

[12] The participating countries and territories included: Albania; Angola; Argentina; Armenia; Australia; Austria; Azerbaijan; Bahamas; Belarus; Belgium; Benin; Bhutan; Bolivia; Bosnia & Herzegovina; Bulgaria; Burkina Faso; Cameroon; Canada; Cabo Verde; Chile; China (People's Republic of); Colombia; Costa Rica; Côte d'Ivoire; Croatia; Cyprus; Czech Republic; Denmark; Djibouti; Democratic Republic of the Congo; El Salvador; Estonia; Finland; France; Gambia; Georgia; Germany; Greece; Guyana; Honduras; Hong Kong, China; Hungary; Iceland; India; Indonesia; Iran; Iraq; Ireland; Israel; Italy; Japan; Jordan; Kazakhstan; Kenya; Korea; Kyrgyzstan; Latvia; Lebanon; Lichtenstein; Lithuania; Malawi; Malaysia; Malta; Mauritius; Mexico; Mongolia; Montenegro; Morocco; Namibia; Netherlands; New Zealand; Nicaragua; Northern Ireland, United Kingdom; Norway; Pakistan; Paraguay; Peru; Philippines; Poland; Portugal; Romania; Russia; Rwanda; Samoa; San Marino; Saudi Arabia; Senegal; Serbia; Seychelles; Singapore; Slovak Republic; Slovenia; South Africa; Spain; Sri Lanka; Swaziland; Sweden; Switzerland; Tajikistan; Thailand; Tunisia; Turkey; Uganda; Ukraine; United Arab Emirates; United Kingdom; Uruguay; United States; Uzbekistan; Venezuela; Viet Nam; Zambia; Zimbabwe.

[13] An economist-driven endeavour that evaluates development projects.

[14] The twelve signatory countries and territories are Austria, Cyprus, Finland, France, Germany, Iceland, Israel, Italy, Portugal, Russia, Switzerland and Ukraine.

[15] The countries involved in the 2012-2013 pilot study included: Cambodia, Croatia, Georgia, Indonesia, Kyrgyzstan, Malaysia, the Philippines, Russia, Ukraine and Viet Nam.

[16] This sentiment was repeated over and over in confidential personal conversations with experts from the pharmaceutical industry, as well as other stakeholders.

[17] NABP represents a coalition of US and international pharmacy groups and associations, with the goals of providing a trusted Internet space for consumers and preventing the dot-pharmacy domain from being associated with fraudulent activity.

[18] A notable exception is that of anti-malarials in Southeast Asia. In Cambodia, a 1999 countrywide survey found that 60% of the antimalarial mefloquine tablets were counterfeit. Following this finding, a "poster and radio education campaign has educated patients to distinguish fake tablets and has driven the sale of counterfeit anti-malarials further underground." (Source: Newton, Paul N., Nicholas J. White, Jan A. Rozendaal, and Michael D. Green. "Murder by Fake Drugs," British Medical Journal, Vol. 324, 6 April 2002, pp. 800-801.)

[19] This argument is articulately presented in a recent piece in *The Lancet* (cited below), but the same proposal or sentiment came up in numerous conversations that I had with industry leaders in product security positions with large pharmaceutical firms. Newton, Paul N., Patricia Tabernero, Prabha Dwivedi, Maria J Culzoni, Maria Eugenia Monge, Isabel Swamidoss, Dallas Mildenhall, Michael D. Green, Richard Jahnke, Miguel dos Santos de Oliveira, Julia, Simao, Nicholas J. White and Facundo M Fernandez. "Falsified medicines in Africa: All talk, no action," *The Lancet* , September 2014, Vol. 2, pp. e509-e510.

[20] Three primary sources of information were utilised in the creation of the INTERPOL report: questionnaire responses, INTERPOL's database system (ICIS), and open source media articles. The questionnaire was provided to all 190 of INTERPOL's Member Countries in addition to the Permanent Forum on International Pharmaceutical Crime (PFIPC), the Heads of Medicines Agencies Working Group of

Enforcement Officers (HMA WGEO), the Pharmaceutical Security Institute (PSI) and multinational pharmaceutical firms. A total of eight pharmaceutical companies responded to the questionnaire.

[21] MacDonald, Gareth. "Gangsters imported fake drugs from Asia says Europol," in-Pharma Technologist.com, 2 September 2014, available at www.in-pharmatechnologist.com/Regulatory-Safety/Gangsters-imported-fake-drugs-from-Asia-says-Europol.

[22] Tom Kubic, personal communication with the author on 24 February 2015.

References

Abbott Laboratories (2004), *Exclusive Sourcing Policy*, Abbott Laboratories, Illinois, www.abbott.com.

AIPM (2001), *Counterfeit drugs in Russia*, Association of International Pharmaceutical Manufacturers Position Paper, Moscow.

Akenhurst, J. (2005), "Chipping away at the counterfeit trade," in *PharmaFocus*, www.pharmafocus.com.

Alubo, S. Ogoh (1994) "Death for sale: A study of drug poisoning and deaths in Nigeria," in *Social Science and Medicine*, Vol. 38/1, pp. 97-103.

American Journal of Health-System Pharmacy (2014), "New Internet Domain Launching for Pharmacy Community," *AJHP News*, 15 December 2014, www.ashp.org/menu/News/PharmacyNews/NewsArticle.aspx?id=4139.

Angwin, J. and C. Bialik (2004), "Web druggist with a cause; KwikMed, an online seller of Viagra, Cialis, Propecia, thinks it merits some respect", *The Wall Street Journal* (Eastern Edition), http://www.wsj.com/articles/SB110054704756274433.

ASOP (2014), *USP Joins Efforts to Halt Illegal Online Drug Sales*, Alliance for Safe Online Pharmacies, 21 August 2014, www.usp.org/news/usp-joins-efforts-halt-illegal-online-drug-sales.

Attaran, A. and L. Gillespie-White (2001), "Do Patents or Antiretroviral Drugs Constrain Access to AIDS Treatment in Africa?", in *Journal of the American Medical Association*, Vol. 286/15, pp.1 886-1 892.

Bale, H. (2005), *Pharmaceutical Counterfeiting: Issues, Trends, Measurement*, WIPO/OECD Workshop, OECD, Paris, www.oecd.org/sti/ind/35650404.pdf.

Bale, H. (2003), "WHO should build partnerships with the pharmaceutical industry to improve public health," in *The Lancet*, Vol. 361/9351, Elsevier, London. Baney, L. (2014), *The problem of rogue internet 'pharmacies': Risks to public health*, slide deck from the Alliance for Safe Online Pharmacies, safeonlinerx.com/wp-content/uploads/2014/07/ASOP-101-presentation-07-2014.pdf.

Barry, F. (2014), *Pfizer, Lilly and other giants team up to fight counterfeits*, in-PharmaTechnologist.com, www.in-pharmatechnologist.com/Regulatory-Safety/Pfizer-Lilly-and-other-giants-team-up-to-fight-counterfeits.

Bate, R. (2008), *Antimalarial drug quality in the most severely malarious parts of Africa: A six country study*, PLoS ONE, PLoS, San Francisco, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0002132.

BBC News (2004), *Viagra bought online 'often fake'*, http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/3696820.stm, (accessed 7 October 2005).

BBC News (2003), *India to toughen fake drugs law*, http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/3331985.stm, (accessed 7 October 2005).

Beach, M. (2001), "China Opens Drug Market by Revising Pharmaceutical Law," in *The Lancet*, Vol. 357/24 March 2001, Elsevier, London, p. 942.

Bennett C.L. (2006), *Government agencies and pharmaceutical industry must take action to thwart sales of counterfeit drug products*, Rheumatology Network, www.rheumatologynetwork.com/articles/government-agencies-and-pharmaceutical-industry-must-take-action-thwart-sales-counterfeit-drug.

Berendes, S. et al. (2011), "Quality of private and public ambulatory health care in low and middle income countries: Systematic review of comparative studies", in *PLoS Medicine*, Vol. 8/4, PLoS, San Francisco, http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000433.

Bernstein, I.B.G. (2012), *FDA efforts: Counterfeit drugs*, presentation at APhA Annual Meeting, New Orleans, Office of Compliance, Center for Drug Evaluation and Research, US Food and Drug Administration, www.fda.gov/ucm/groups/fdagov-public/@fdagov-afda-orgs/documents/document/ucm299777.pdf.

Blackstone, E.A., J.P. Fuhr and S. Pociask (2014), "The health and economic effects of counterfeit drugs," in *American Health and Drug Benefits*, June, Vol. 7/4, pp. 216-224.

Broun, G.D.D. (1994), "Pharmaceutical policies: Rationale and design", Human Resources Development and Operations Policy, *HRO Working Paper* No. 35, World Bank, Washington DC, www.worldbank.org/html/hcovp/phnflash/hcwp/hrwp031.html.

Cameron, A. et al. (2008), "Medicine prices, availability and affordability in 36 developing and middle-income countries: A secondary analysis," in *The Lancet*, Vol. 373/9659, Elsevier, London, pp. 240-249.

CBC News (2015), *Hells Angels targeted in organized crime busts in Saskatchewan, Alberta: Police seize fake oxycontin, guns in raids that also focused on Fallen Saints Gang*, www.cbc.ca/news/canada/saskatoon/hells-angels-targeted-in-organized-crime-busts-in-saskatchewan-alberta-1.2901967.

Chatterjee, P. (2001), "India's trade in fake drugs: Bringing the counterfeiters to book," in *The Lancet*, Vol. 357, Elsevier, London, p. 1 776.

Chaudhry, P.E. and A. Zimmerman (2013), Protecting Your Intellectual Property Rights: Understanding the Role of Management, Governments, Consumers and Pirates, Springer-Verlag, New York.

Christian, J. (2001), *Continuing concerns over imported pharmaceuticals*, Prepared Witness Testimony for the Committee on Energy and Commerce on 7 June 2001, US House of Representatives, Subcommittee on Oversight and Investigations,

http://www.gpo.gov/fdsys/pkg/CHRG-107hhrg73737/html/CHRG-107hhrg73737.htm.

Cockburn, R. et al. (2005), "The Global Threat of Counterfeit Drugs: Why Industry and Governments Must Communicate the Dangers," in *PLoS Medicine*, PLoS, San Francisco, http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0020100.

Cohen, J.C. and K.M. Lybecker (2005), "AIDS policy and pharmaceutical patents: Brazil's strategy to safeguard public health", in *The World Economy*, Vol. 28/2, Blackwell Publishing Ltd, Hoboken, NJ, pp. 211-230.

Crouch, G. (2005), "Europeans investigate resale of AIDS drugs," *The New York Times*, 29 October 200,

Customs Today Report (2015), *Canadian authorities nail down drug smugglers, seize 3 358 fake oxycontin pills, drugs worth USD 8 M*, http://customstoday.com.pk/canada-authorities-nail-down-drug-smugglers-seize-3358-fake-oxycontin-pills-drugs-worth-8m/.

Dahl, J. (2014), "HIV/AIDs medication: The black market and safety", presentation at Partnership for Safe Medicines, August 4 2014.

Datta, P.T.J. (2003), *India turning capital for counterfeit drugs*, Financial Times, The Business Line (India), online edition, http://search.ft.com/search/article.html?id=030803002489.

DeKieffer, D. (2002), "The Counterfeit-Diversion Link," in LePark, M. (ed.), *Protecting Medicines and Pharmaceuticals: A Manual of Anticounterfeiting Solutions*, Reconnaissance International, Greenwood Village, Colorado, Chapter 3, pp. 17-20.

Dingell, J.D. (2003), *Excerpt from the Congressional Record of Congressman John D. Dingell's statement before the House of Representatives*, 24 July 2003, H7597-H7598, www.house.gov.

DNDi (n.d.), *Landscape for R&D*, Drugs for Neglected Diseases Initiative, www.dndi.org/business-model/landscape.html

Faucon, B. and H. Plumridge (2003), "Italian officials probe criminal ties to cancer drug theft," *The Wall Street Journal*, www.wsj.com/articles/SB10001424052702303678404579535143080068568.

Faucon et al. (2013), "Africa's malaria battle: Fake drug pipeline undercuts progress," *The Wall Street Journal*, www.wsj.com/articles/SB10001424127887324474004578444942841728204.

Ganslandt, M. and Maskus K.E. (2001), "Parallel Imports of Pharmaceutical Products in the European Union", in *Policy Research Working Paper* No. 2630, Development Research Group, The World Bank, Washington DC.

Gibson, L. (2004), "Drug regulators study global treaty to tackle counterfeit drugs," in *British Medical Journal*, Vol. 328/7 438, BMJ Publishing Group Ltd, London, p. 486.

Gillette, F. (2013), "Inside Pfizer's fight against counterfeit drugs," *Businessweek*, www.bloomberg.com/bw/articles/2013-01-17/inside-pfizers-fight-against-counterfeit-drugs#p1.

Goering, L. (1998), "Baby boom forces Brazil to confront fake medicines," *Chicago Tribune News*, 14 July 1998, http://articles.chicagotribune.com/1998-07-14/news/9807140107_1.

Goma Epidemiology Group (1995), "Public health impact of Rwandan refugee crisis: what happened in Goma, Zaire, in July, 1994?", in *The Lancet*, 8946, Vol. 345, Elsevier, London, pp. 339-44.

Goodman, P.S. (2002), "China's big headache: Fake pharmaceuticals," *The Washington Post*, 30 August, p.A1.

GPHF (2001), "Counterfeit medicines: An unscrupulous business," German Pharma Health Fund, www.gphf.org.

Grady, D. (2003), "FDA outlines plans to counter growing trade in fake pharmaceuticals," *The New York Times*, 3 October 2003, http://www.nytimes.com/2003/10/03/us/fda-outlines-plans-to-counter-growing-trade-in-counterfeit-pharmaceuticals.html.

Harbaugh, R. and R. Khemka (2000), "Does copyright enforcement encourage Piracy?" *Claremont Economics Working Paper* 2000-14, Claremont McKenna College, Claremont, CA.

Harris, J. et al. (2009), *Keeping it real: Combatting the spread of fake drugs in poor countries*, International Policy Network, www.africanliberty.org/pdf/Keepingitreal.pdf.

Hensley, S. (2003), "New J&J policy aims to thwart counterfeits," *The Wall Street Journal* (Eastern Edition), 11 December 2003, http://www.wsj.com/articles/SB107110068153078000.

Hirschler, B. (2014), "Fake medicines worth 18.6 million pounds seized in global crackdown," *Reuters*, www.reuters.com/article/2014/05/22/us-pharmaceuticals-counterfeit-idUSKBN0E21DG20140522.

Hoffman, J. (2011), "A way to check that drugs are not counterfeit," *The New York Times*, 26 September 2011, www.nytimes.com/2011/09/27/health/27counterfeit.html.

Hopkins, D.M. et al. (2003), *Protecting Your Brand and Customers*, John Wiley & Sons, Hoboken, NJ.

Imber, S. (2014), *Operation Pangea VII shuts down thousands of fake online pharmacies in largest operation yet*, The Partnership for Safe Medicines, Vienna, VA, www.safemedicines.org/2014/05/operation-pangea-vii-shuts-down-thousands-of-fake-online-pharmacies-in-largest-operation-yet-5-28-14.html.

IMS Global Insights (2005), *World Markets: Looking to China and Cancer as Cost Containment Slows Growth*, www.imshealth.com/web/content/0,3148,64576068_63872702_70260998_73052844,00.html,

IOM (2013), *Countering the Problem of Falsified and Substandard Drugs*, National Academies Press, Washington DC, www.nap.edu/catalog/18272/countering-the-problem-of-falsified-and-substandard-drugs.

INTERPOL (2014a), *Pharmaceutical crime and organized criminal groups: An analysis of the involvement of organized criminal groups in pharmaceutical crime since 2008*, INTERPOL, Lyon.

INTERPOL (2014b), *Thousands of illicit online pharmacies shut down in the largest-ever global operation targeting fake medicines: Organized crime networks targeted in INTERPOL-co-ordinated Operation Pangea VII*, INTERPOL, Lyon www.interpol.int/News-and-media/News/2014/N2014-089.

Irish, J. (2010), "Customs group to fight USD 200 bln bogus drug industry," *Reuters*, 10 June 2010, www.reuters.com/article/2010/06/10/us-customs-drugs-idUSTRE65961U20100610.

Knox, R. (2003), "Counterfeit Drugs", *NPR News Broadcast Transcript*, 29 July 2003, http://discover.npr.org.

Kontnik, L.T. (2003), "Counterfeits: The Cost of Combat," *Pharmaceutical Executive*, www.pharmexec.com/counterfeits-cost-combat.

Kontnik, L.T. (1998), "Firms have an obligation and an opportunity to protect their drugs", *Pharmaceutical and Medical Packaging News*, www.pmpnews.com/article/firms-have-obligation-and-opportunity-protect-their-drugs.

Kubic, T. (2015), personal communication with president and CEO of the Pharmaceutical Security Institute (PSI).

Lee, H/L., V. Padmanabhan and S. Whang (1997), "Information distortion in a supply chain: The bullwhip effect", in *Management Science*, Vol. 43/4, pp. 546-558.

Lenox, M. (2001), "Overcoming agency and information problems in the diffusion of best practice within firms" working paper, 3 January.

LePark, M. (2002), "Impact on the company," in *Protecting Medicines and Pharmaceuticals: A Manual of Anticounterfeiting Solutions*, Reconnaissance International, Greenwood Village, Colorado, pp. 25-32.

Lewis, K. (2009), "China's counterfeit medicines trade booming," in *Canadian Medical Association Journal*, Vol. 181/10, www.ncbi.nlm.nih.gov/pmc/articles/PMC2774384/, pp. E237–E238.

Liang B.A. (2002), "Fade to black: importation and counterfeit drugs," in *American Journal of Law and Medicine*, Vol. 32, pp. 279-323.

Lybecker, K.M. (2008), "Keeping it real: Anticounterfeiting: Strategies in the pharmaceutical industry," in *Managerial and Decision Economics*, Vol. 29, pp. 389-405.

Lybecker, K.M. (2007), "Rx roulette: Combatting counterfeit: Pharmaceuticals in developing nations," in *Managerial and Decision Economics*, Vol. 28, pp. 509-520.

Lybecker, K.M. (2000), *Product Piracy: The Sale of Counterfeit Pharmaceuticals in Developing Countries*, doctoral dissertation, Department of Economics, University of California, Berkeley.

MacDonald, G. (2014), *Gangsters imported fake drugs from Asia says Europol*, in-Pharma Technologist.com, www.in-pharmatechnologist.com/Regulatory-Safety/Gangsters-imported-fake-drugs-from-Asia-says-Europol.

Madslien, J. (2005), *Businesses unite to fight piracy*, BBC News, http://news.bbc.co.uk/go/pr/fr/-/2/hi/business/4307498.stm, (accessed 7 October 2005).

Madur, G. (2003), "India to introduce death penalty for peddling fake drugs", in *British Medical Journal*, Vol. 237, BMJ Publishing Group Ltd, London, p. 414.

Mansfield, E. (1994), "Intellectual property protection, Foreign Direct Investment and technology transfer," *Discussion Paper No. 19*, International Finance Corporation, The World Bank, Washington DC.

Maskus, K.E. (2000), *Intellectual Property Rights in the Global Economy*, Institute for International Economics, Washington, DC.

Mayor, S. (2008), "More than half of drugs sold online are fake or substandard," in *British Medical Journal*, Vol. 337, BMJ Publishing Group Ltd, London, www.bmj.com/content/337/bmj.a618, p.1618.

McCarthy, M. (2013), "Handheld device for counterfeit drug detection to be tested in Africa," in *British Medical Journal*, Vol. 346, BMJ Publishing Group Ltd, London, p.f2732.

McGregor, A. (1997), "Counterfeit drugs flood developing world," in *The Lancet*, Vol. 350, Elsevier, London, p.1 690.

McKinsey and Co. (2012), *Strength in Unity: The Promise of Global Standards in Healthcare*, McKinsey and Co, New York, www.gs1.org/docs/healthcare/McKinsey_Healthcare_Report_Strength_in_Unity.pdf.

Naik, G. (2004), "Nigerian regulator dodges violence to fight fake drugs; Dorothy Akunyili speaks out against bogus medicines and makers lash back" *Wall Street Journal*, Eastern Edition, http://www.wsj.com/articles/SB108568995650123221.

National Association of Boards of Pharmacy (2015), *Internet Drug Outlet Identification Program: Progress Report for State and Federal Regulators*, NABP, Mount Prospect, IL, http://s3.amazonaws.com/awarerx/rich/rich_files/rich_files/158/original/idoireport-january2015.pdf.

National Association of Boards of Pharmacy (2013), *Wholesale drug distribution: Protecting the integrity of the nation's prescription drug supply*, NABP, Mount Prospect, IL, www.nabp.net/system/rich/rich_files/rich_files/000/000/064/original/wholesale-drug-distribution-protecting-the-integrity-of-the-nations-prescription-drug-supply.pdf.

Nayyar, G. et al. (2012), "Poor-quality antimalarial drugs in southeast Asia and sub-Saharan Africa" in *The Lancet Infectious Diseases*, Volume 12/6, Elsevier, London, www.thelancet.com/pdfs/journals/laninf/PIIS1473-3099%2812%2970064-6.pdf, pp. 488-496.

Newton, P.N. (2012), "Interview with Paul Newton", in *Pathogens and Global Health: Journal of Infectious Disease and Public Health*, www.pathogensandglobalhealth.com/2012/08/interview-with-paul-newton/.

Newton, P.N. (2006a), "Manslaughter by fake artesunate in Asia – will Africa be next?", in *PLoS Medicine*, PLoS, San Francisco, http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0030197.

Newton, P.N. (2006b), "Counterfeit anti-infective medicines", in *The Lancet Infectious Diseases*, Vol. 6, Elsevier, London, pp. 602-613

Newton, P.N. et al. (2014), "Falsified medicines in Africa: All talk, no action," in *The Lancet*, Vol. 2, Elsevier, London, pp. e509-e510.

Newton, P.N. et al. (2002), "Murder by fake drugs," in *British Medical Journal*, Vol. 324, BMJ Publishing Group Ltd, London, pp. 800-801.

Partnership for Safe Medicines.org (2010), *Philadelphia resident admits selling over-the-counter counterfeit drugs containing carcinogenic solvents*, www.safemedicines.org/2010/05/philidelphia-resident-pleads-guilty-to-counterfeit-drug-importation-and-distribution.html.

Partnership for Safe Medicines.org (2005), *4 deaths tied to counterfeit drugs dispensed at Ontario, Canada, pharmacy*, www.safemedicines.org/2005/09/4-deaths-tied-to-counterfeit-drugs-dispensed-at-ontario-canada-pharmacy.html.

Pew Charitable Trusts (2014), *Case studies: How unsafe drugs can reach patients*, www.pewtrusts.org/~/media/legacy/uploadedfiles/phg/content_level_pages/issue_briefs/CaseStudyUnsafeDrugsv2pdf.pdf.

PhRMA (2012), *Joint industry statement: Internet sales and access to safe medicine*, Pharmaceutical Research and Manufacturers of America, PhRMA, Washington DC, www.phrma.org/media/releases/joint-industry-statement-internet-sales-access-safe-medicines.

Pogge, T.W. (2005), "Human rights and global health: A research program," in Barry, C. and T. Pogge (eds.), *Global Institutions and Responsibilities: Achieving Global Justice*, Blackwell, Oxford, pp. 190-217.

Przyswa, E. (2013), *Counterfeit Medicines and Criminal Organisations*, International Institute of Research Against Counterfeit Medicines, www.iracm.com/wp-content/uploads/2014/02/Contrefacon-de-Medicaments-et-Organisations-Criminelles-EN.pdf.

Raine, J.M. (2012), "Drug safety: Reporting systems for the general public," in *British Medical Journal*, Vol. 345, BMJ Publishing Group Ltd, London, p.34 916.

Rosenberg, T. (2014), "The fight against fake drugs," *The New York Times*, http://opinionator.blogs.nytimes.com/2014/06/04/the-fight-against-fake-drugs/?_r=0.

Rozendaal, J. (2001), "Fake anti-malaria drugs in Cambodia," in *the Lancet*, Vol. 357/9 259, Elsevier, London.

Sample, I. (2014), "Surge in illegal sales of drugs as gangs exploit 'phenomenal market' online" *The Guardian*, www.theguardian.com/society/2014/dec/28/drugs-medicines-sold-illegally-online-internet.

Saywell, T. and J. McManus (2002), "What's in that pill?", in *Far Eastern Economic Review*, Vol. 165/7, pp. 34-37.

Shelton, D.L. (2012), "Fake medicine poses growing threat to consumers: Counterfeit drug industry flourishing online as regulators struggle to curb it", *Chicago Tribune*, http://articles.chicagotribune.com/2012-10-16/health/ct-met-online-pharmacy-fake-drugs-20121016_1_counterfeit-drugs-carmen-catizone-illegal-online-pharmacies.

Soentgen, J. (2012), "Disposing of counterfeit goods: unseen challenges", *WIPO Magazine*, www.wipo.int/wipo_magazine/en/2012/06/article_0007.html.

Sommerville, Q. (2005), *China, US bust fake Viagra ring*, BBC News, http://news.bbc.co.uk/go/pr/fr/-/2/hi/asia-pacific/4228504.stm.

Southwick, N. (2013), *Counterfeit drugs kill 1 mn people annually: Interpol*, InSIghtCrime, www.insightcrime.org/news-briefs/counterfeit-drugs-kill-1-million-annually-interpol.

Sproxil.com (2015), "About Us", Sproxil website, http://sproxil.com/about-us.html, (accessed 25 November 2015).

Stanton, D. (2014a), *Sugar in place of APIs discovered in EU's largest fake drug seizure*, in-PharmaTechnologist.com, www.in-pharmatechnologist.com/Regulatory-Safety/Sugar-in-place-of-APIs-discovered-in-EU-s-largest-fake-drug-seizure.

Stanton, D. (2014b), *Fake OTCs becoming more common, says ex-DOJ prosecutor*, in-PharmaTechnologist.com, www.in-pharmatechnologist.com /Regulatory-Safety/Fake-OTCs-becoming-more-common-says-ex-DOJ-prosecutor.

The Global Fund (2015), *Background on the Global Steering Committee for quality assurance of health products*, The Global Fund, Geneva.

The Global Fund (2013), *WHO Alert on Counterfeit Coartem*, The Global Fund, Geneva, www.theglobalfund.org/en/oig/updates/2013-11-08_WHO_Alert_on_Counterfeit_Coartem/.

The Lancet (2012), *Editorial: Counterfeit drugs: A growing global threat*, February 25 2012, Vol. 379, Elsevier, London, p. 685.

Toscano P. (2011), "The dangerous world of counterfeit prescription drugs," *CNBC*, www.cnbc.com/id/44759526.

Tufts Center for the Study of Drug Development (2014), *Cost to Develop and Win Marketing Approval for a New Drug Is $2.6 Billion*, http://csdd.tufts.edu/news/complete_story/pr_tufts_csdd_2014_cost_study.

UNICRI (2012), *Counterfeit Medicines and Organized Crime*, United Nations Interregional Crime and Justice Research Institute, Turin, www.unicri.it/topics/counterfeiting/medicines/report/Ctf_medicines_and_oc_advance_unedited2013.pdf.

UNODC (2014), *Focus on the illicit trafficking of counterfeit goods and transnational organized crime*, United Nations Office on Drugs and Crime, Vienna, www.unodc.org/documents/counterfeit/FocusSheet/Counterfeit_focussheet_EN_HIRES.pdf.

UNODC (2013), *Transnational organized crime in East Asia and the Pacific: A threat assessment*, United Nations Office on Drugs and Crime, Vienna, www.unodc.org/documents/data-and-analysis/Studies/TOCTA_EAP_web.pdf.

United States Department of Homeland Security (2014), *Intellectual property rights seizures statistics Fiscal year 2013*, www.cbp.gov/sites/default/files/documents/2013%20IPR%20Stats.pdf.

United States Department of Justice (2012), *23 Individuals and 3 Corporations Indicted in a Drug Diversion Case*, press release, December 13 2012.

USFDA (2011a), *FDA conducts preliminary review of agency's diversion and counterfeit criminal case information*, United States Food and Drug Administration, Washington DC.

USFDA (2011b), *1.3 Major Categories of Wholesalers*, United States Food and Drug Administration, Washington DC, www.fda.gov/RegulatoryInformation/Legislation/FederalFoodDrugandCosmeticActFDCAct/SignificantAmendmentstotheFDCAct/PrescriptionDrugMarketingActof1987/ucm256477.htm.

USGAO (2007), *Intellectual Property: Better Data Analysis and Integration Could Help US Customs and Border Protection Improve Border Enforcement Efforts*, United States Government Accountability Office, www.gao.gov/new.items/d07735.pdf.

Venhuis, B.J. et al. (2014), "Success of rogue online pharmacies: Sewage study of sildenafil in the Netherlands," in *British Medical Journal*, BMJ Publishing Group Ltd, London, p. 349.

VSO (1998), "Fatal forgeries," *Orbit Magazine*, No. 67, Voluntary Service Overseas, www.oneworld.org/vso/pubs/orbit/67/medicine.htm.

Watson, R. (2011), "Governments pledge to clamp down on counterfeit drugs," in *British Medical Journal*, Vol. 343, BMJ Publishing Group Ltd, London, www.bmj.com/content/343/bmj.d7096.

WHO (2015), *General information on counterfeit medicines*, World Health Organization, Geneva, www.who.int/medicines/services/counterfeit/overview/en/.

WHO (2010a), *Bulletin of the World Health Organization: Growing threat from counterfeit medicines*, Vol. 88/4, www.who.int/bulletin/volumes/88/4/10-020410/en/#, World Health Organization, Geneva, pp. 241-320.

WHO (2010b), *WHO Surveillance and Rapid Alert System for Substandard/Spurious/Falsely labelled/Falsified/Counterfeit (SSFFC) Medical Products*, World Health Organization, Geneva, www.euro.who.int/en/health-topics/Health-systems/medicines/news/news/2014/06/who-surveillance-and-rapid-alert-system-for-substandardspuriousfalsely-labelledfalsifiedcounterfeit-ssffc-medical-products#.

WHO (2006), *Counterfeit medicines: an update on estimates*, World Health Organization, Geneva, www.who.int/medicines/services/counterfeit/impact/TheNewEstimatesCounterfeit.pdf.

WHO (2003), *Substandard and Counterfeit Medicines*, Fact Sheet No. 275, World Health Organization, Geneva, www.who.int/mediacentre/factsheets/fs275/en/.

Chapter 5

A brief overview of illicit trade in tobacco products

By Dr. Sharon Melzer and Chris Martin*

The illicit trade in tobacco is perhaps the most widespread and most documented sector in the shadow economy. It has been estimated that 570 billion illicit cigarettes were consumed worldwide in 2011. Illicit tobacco is therefore an important source of revenue for criminal networks, and it deprives government services of excise tax revenues at the same time. This chapter describes the different types of illicit tobacco products, explains some of the methods for measuring the markets and suggests measures that could be taken to impede this criminal activity.

* Her Majesty's Revenue and Customs

The opinions expressed and arguments employed in this chapter are those of the author(s) and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

This chapter and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

The global illicit trade in tobacco products presents a range of economic and social harms that should concern policy makers, ranging from adverse impacts on public health to tax evasion and the financing of terrorist groups. In Europe alone, its annual turnover has been estimated to be between EUR 7.8 billion to EUR 10.5 billion, which is higher than the nominal GDP of nearly one-quarter of the world's sovereign nations. If only 20% of these estimated revenues accrued to criminal networks as profits, the sum would still exceed the nominal GDP of some 15% of the sovereign nations in the world. These figures provide some scale to compare the economic resources of criminal networks to the many small, but sovereign, states that may be susceptible to abuse as transit points for illicit trade.

The drivers and trends of illicit trade in tobacco products are highlighted in this paper, to provide a backdrop for considering policy options to reduce it. Its attractiveness as a criminal enterprise is due not only to the potential for profits, but the leniency with which criminal sanctions are applied, by comparison with trafficking in drugs, arms or persons. Entering or expanding an illicit tobacco market therefore has strategic value for criminal enterprises, since it strengthens the financial base for extending illegal activity into additional markets at relatively low risk.

Illicit trade in tobacco products is a chain of illegal activities that may include unlicensed production, smuggling, fraudulent marketing and tax evasion. Often, illicit trade requires money laundering, corruption and various frauds and related crimes, to move the illicit goods and money through various transit and financial systems. Each link in this chain of illegality causes direct or indirect harm: the sale of illicit tobacco products deprives governments of revenue in excise and value added or general sales taxes. It also deprives legitimate manufacturers, suppliers and distributors of revenues, often provides financial support to corrupt officials, undermines investment in innovation and reduces formal employment. In addition, it raises concerns for public health world-wide and security in fragile states, as its proceeds are often reinvested to finance further criminal or terrorist organisations (Shelley, 2009).

Illicit trade in tobacco products also leads to impacts that are harder to quantify, such as loss of public trust in the integrity of key government and business sectors. Poor product performance and the unregulated manufacturing processes behind counterfeits greatly reduce the integrity of well-established brands, eroding public trust in legitimate manufacturers, who are mistakenly blamed by duped consumers. Likewise, the profits that accrue to the dominant market actors enable them financially to expand into complementary criminal operations (including extortion, bribery and weapons trafficking) and can even challenge states for supremacy, through their funding of terrorism and insurgencies.

This chapter will introduce the terminology, measurement and data collection methodologies, key issues and drivers, connections to serious organised crime and terrorism, existing legal frameworks and suggestions for countering the illicit trade. It gives an overview of a complex criminal market that can have serious impacts on security, governance, societies and economies.

Tobacco – the legal market

The value of the global tobacco market is estimated at USD 744.2 billion in 2014, with cigarettes accounting for 91% of all tobacco products. The volume of cigarettes has declined by 0.4%, but value has increased by 6.1% over 2013. The average price increased by 6.6% to USD 2.63 per pack of 20 cigarettes. Prices around the world differ significantly from region to region, with Middle East/Africa having the lowest prices per pack (below USD 2 per pack) and Australasia the highest (USD 13). The price differentials generate smuggling from low-cost regions/countries to high-cost regions/countries (Euromonitor, 2014, Euromonitor, 2015). The global tobacco market is dominated by four companies that, combined, account for approximately 64% of the legal tobacco market (MarketLine, 2014).

In general, a "tobacco product" is any product that is made from tobacco and intended for human consumption.[1] Most tobacco consumption is in the form of cigarettes (more than 80%) (FAO, 2003).[2] Tobacco, one of the three main components of a cigarette, is a flowering plant grown in more than 120 countries and is the most widely cultivated non-food crop.[3] Each type of tobacco is generally defined by the curing method applied to it. Flue-cured tobacco is used mainly in the manufacture of cigarettes; the most common and popular type is Virginia, which is grown in Argentina, Brazil, China, India, Tanzania and the United States, among other countries. Air-cured tobacco can be light or dark. Dark air-cured tobaccos are mainly used in the production of chewing tobacco and snuff. Fire-cured tobacco is used mostly for pipe tobacco mixtures, snuff and chewing tobacco. Oriental tobaccos, or "Out of sun-cured tobaccos" originate in Bulgaria, Greece, the Former Yugoslav Republic of Macedonia and Turkey (International Tobacco Growers Association, n.d.; Phillip Morris International, 2015). Since tobacco is grown world wide and the curing methods vary, monitoring its cultivation as a means of controlling the supply chain is not feasible; the product can be grown outside the legal market's supervision and regulation with ease.[4]

Tobacco tends to be a legal product. In most circumstances, the product is cultivated, processed, manufactured into a "tobacco product," and distributed through legal channels. In many jurisdictions, tobacco is highly regulated from seed to final retail sale. The product can be, and often is, taxed; the taxation level and point of taxation varies between jurisdictions. The companies tend to know their farmers, processors and suppliers (including suppliers for filters, cigarette papers and packaging) to ensure the desired quality and characteristics of their specific products. The manufacturer can only control the product to a certain point. At some point in the distribution channel, the cigarettes and other tobacco products (OTP) are disseminated through systems of transit companies, wholesalers and retailers. Just over half of legal tobacco products are sold to the consumer through independent retailers, grocery stores/supermarkets, convenience stores and gas/petrol stations, with the rest sold through other legal outlets (MarketLine, 2014).

The World Health Organization (WHO) estimates that one in every ten cigarettes smoked is illicit, suggesting that a majority of the cigarette market, and even the larger tobacco market, is legal (WHO, 2015a). The fact that tobacco tends to be a legal, regulated and taxed product is one of the first characteristics of the illicit market in tobacco products, which tends to distinguish itself from other forms of illicit trade. The legality, taxation and regulation of a majority of the market set parameters for the illicit market.

The illicit tobacco market

Illicit actors have exploited the commodity for their own financial gains and created a lucrative black market in tobacco products. The profit potential has enticed a variety of illicit actors, from small-scale bootleggers to transnational organised crime and terrorist organizations.

The illicit trade in tobacco products includes various types of illicit tobacco products. Typically, the products fall under five broad categories: 1) contraband, 2) counterfeit, 3) "cheap whites" or "illicit whites," and 4) loose and/or raw tobacco. Mirroring the legal market, a significant percentage of illicit tobacco is in the form of cigarettes. Illicit tobacco products also take the form of cigars, cigarillos, shisha (tobacco for smoking in a hookah), raw or loose tobacco and smokeless tobacco (e.g. chewing tobacco and snuff).

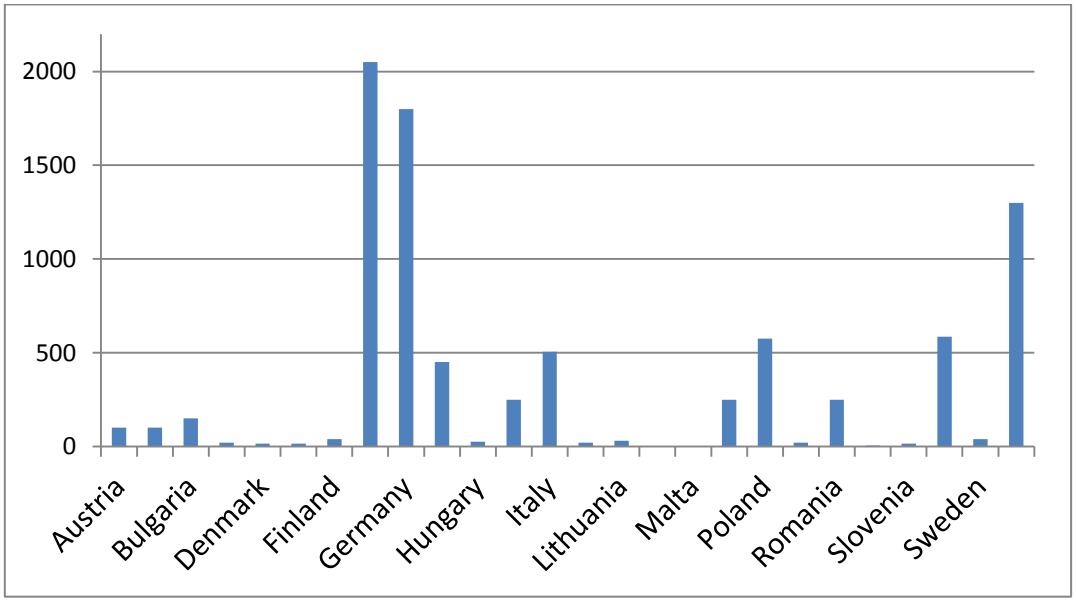
Contraband tobacco products are produced legally, but have been diverted after manufacture into an illegal market. A tobacco product, usually cigarettes, becomes contraband when the appropriate taxes, duties and fees are not paid. The diversion of supply from manufacturer to licensed retailer can occur via bootlegging (including Internet sales) or large-scale smuggling operations. Legal definitions of contraband vary by government. For the United States, at the federal level, "contraband cigarettes" refers to more than 10 000 cigarettes that do not bear required state or local tax stamps (Title 18, United States Code, Section 2342) (ATF, 2015).

- **Counterfeit** tobacco products are illegally produced and bear false manufacturing labels, unauthorised trademarks or trade names. The manufacturing sophistication and the product quality can vary. The quality of the packaging has increased with various technologies, and the product can be difficult to distinguish. Not only do counterfeit tobacco products infringe upon intellectual property rights, they do not always meet standards set out by health regulations, and appropriate taxes are not usually paid. Moreover, counterfeit products tend to have higher levels of certain carcinogens and may contain sand, plastic, faeces, asbestos, mould and other harmful ingredients (von Lampe, 2006). Cigarettes tend to be the most counterfeited tobacco product. China has criminalised the production of counterfeit cigarettes, but illegal factories located in China tend to be the largest supplier of counterfeit cigarettes (Shen, Antonopoulos and von Lampe, 2010).
- **"Cheap whites" or "illicit whites" (sometimes referred to as "off-brand")** are cigarettes legally produced in one jurisdiction for the sole purpose of being exported and illegally sold in a jurisdiction where they have no legitimate market. These cigarettes may not meet the health and manufacturing regulations of the destination country, nor are the appropriate duties paid in the destination country. In the country of production, appropriate taxes may be paid and the cigarettes may be lawfully exported (INTERPOL, 2014a). According to INTERPOL, well-known sources of illicit white production are located in Belarus, Viet Nam, Indonesia, Philippines, India, Cambodia, Paraguay, Ukraine, Russia, Montenegro, United Arab Emirates (UAE), Kenya and a number of free-trade zones (INTERPOL, 2014a).
- **Loose tobacco** is a term applied to tobacco that is often used for cigarettes. Loose tobacco may be used to illegally manufacture cigarettes or other tobacco products, such as "roll-your-own" tobacco, without payment of tax. Illicit loose tobacco can be misbranded or adulterated and may not meet regulatory standards. In Australia,

it is often sold in plastic bags so that users may roll their own cigarettes, at half the price of legal cigarettes (Bittoun, 2004). Raw tobacco, or unmanufactured tobacco, "is any part of the tobacco plant (leaf, stem, etc.) that has been harvested from the ground but does not yet meet the definition of 'other smoking tobacco' or 'hand-rolling tobacco'" (HMRC, 2014a).

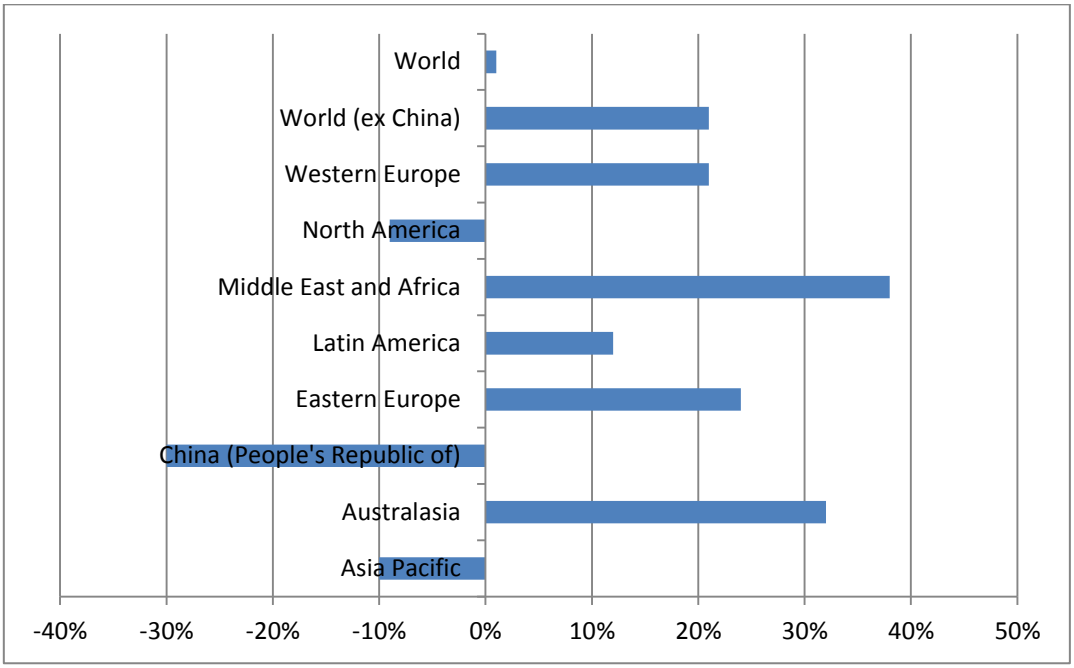
Governments, academics and private companies have used various methodologies to estimate the magnitude of the black market for tobacco products at local, national and regional levels. Two common estimates involve the percentage of the market that is illicit (e.g. illicit penetration rates) or the estimated tax losses caused by the illicit trade in tobacco products (e.g. tax-gap analysis). According to the WHO, one in every ten cigarettes and many other tobacco products consumed in the world are illegal (WHO, 2015a).[5] A recent analysis conducted by Transcrime estimated the European Union's illicit market for tobacco products to yield between EUR 7.8 billion and EUR 10.5 billion annually (Transcrime, 2015). Figure 5.1, generated by using Transcrime's data, illustrates the estimated proceeds of the illicit trade in tobacco products for 28 European Union countries. Euromonitor estimated the 2014 illicit market to be approximately 500.8 billion sticks (Euromonitor, 2015).[6] As displayed in Figure 5.2, Euromonitor also tracks regional illicit tobacco markets over time. As illustrated, many of the regional markets are seeing an increase in illicit cigarette trade. The Middle East and Africa region showed the largest growth in volume of illicit cigarettes over the five-year period. Euromonitor attributes this growth to political situations and conditions in the region. The North America, China and Asia Pacific regions showed decreases during the same five-year period (2009-2014) (Euromonitor, 2015).

Figure 5.1. Estimated proceeds of the market for illicit trade in tobacco products, EU 28 (2013)



Source: TRANSCRIME (2015), "European outlook on the illicit trade in tobacco products", Trento: Transcrime – Università degli Studi di Trento, p. 12. ***Note:*** The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Figure 5.2. World illicit trade in cigarettes by volume growth, 2009-2014



Source: Euromonitor International (2015), "Global Tobacco: Key findings, Part I – Cigarettes, the ongoing quest for value, July, "Regional trends in illicit trade: Historic", p. 25.

Note: Where it says "ex China" above this means that in the bar it excludes the People's Republic of China data, as they have a big decrease in illicit tobacco product.

The United Kingdom's illicit cigarette market estimate for 2013-2014 is 10%, consistent with the WHO estimate; this is a significant reduction from the 2000-2001 estimate of 22%. A similar reduction was found in hand-rolling tobacco, falling from 61% to 39%. This translates into a significant reduction in tax loss for the British government. During the same measurement points, 2000-2001 and 2013-2014, the estimated tax losses decreased from GBP 3.4 billion to GBP 2.1 billion (HMRC, 2015a). While the reduction illustrates that the illicit market can be reduced through various initiatives, the GBP 2.1 billion in estimated tax losses is still significant and is on par with the lower estimates for tax losses to individual states within the United States. A recent academic estimate places the United States' illicit market between 8.5% and 21%, causing approximately USD 3 billion to USD 7 billion in tax losses to individual states. It should be noted that a majority of the illicit cigarette market in the United States' market is contraband cigarettes moved between states; because federal taxes on contraband cigarettes are usually paid, federal tax loss is not included in the above-mentioned estimates (Reuter and Majmundar, 2015).

The United Kingdom has seen a shift in consumption of tobacco products both downwards as regards legal products and from cigarettes to hand rolling tobacco. Concerns about an increasing risk of evasion of duty through raw tobacco being freely and legally imported and then processed into illicit smoking products, led to the Government of the United Kingdom issuing a consultation paper in October 2014. The public consultation covered proposals to introduce additional controls on raw tobacco.

The industry and health groups welcomed the proposals , confirming the Government's view that a registration scheme is the correct way forward. (HMRC, 2015b).

Illicit markets vary from country to country and over time, suggesting that various factors influence the illicit market. Those factors could include the availability of legal products, taxation, disposable income, law enforcement efforts and good governance. The WHO states that the factors that influence levels of illicit trade "include the ease and cost of operating in a country, tobacco industry participation, how well-organized the crime networks are, the tax administration system's efficiency and honesty and the likelihood of being caught and punished" (WHO, 2015a). The potential profits, and the low risks associated with being caught and convicted of a crime, entice criminals to engage in a variety of illegal schemes and methods of moving tobacco products into jurisdictions in violation of national legislation.

Criminals smuggle cigarettes by any means available: personal vehicles, luggage, postal services, boats, cargo trains, donkeys and shipping containers (Melzer, 2010). Law enforcement must be vigilant to monitor traditional vulnerabilities and methods as well as detect new trends in smuggling. The illegal tobacco products can be shipped by themselves or with cover loads, such as furniture, food, fertilizer or clothing (WCO, 2014a). The World Customs Organization (WCO) noted that smugglers have used modified cars, trucks and train cars to move cigarettes across borders. A Mercedes-Benz was modified so that it could smuggle 318 cartons of cigarettes into Singapore. In Latvia, officials have uncovered modified trucks (lorries) with false walls and floors to conceal illicit cigarettes. In Zimbabwe, officials found more than 15 million cigarettes hidden within four train cars that gave the appearance of full loads of timber (WCO, 2014b). In Illicit Trade Report 2013, the WCO states that "an emerging trend that is worth pointing out is the appearance of 'mail' as a new concealment method for large quantities" (WCO, 2014b).

Smugglers have used various types of vessels to smuggle cigarettes. In 2012, French and Spanish Customs, during a joint operation, intercepted a yacht containing more than 12 tons of illicit cigarettes (Douanes et Droits Indirects, n.d.). In 2013, Garda Siochána, the National Police Service of Ireland, seized nearly 1 million individual "plain-packaging" packs of cigarettes. The illicit cigarettes were manufactured in Viet Nam and destined for the Irish market. The shipment was uncovered when al-Qaeda operatives launched two rockets at the vessel as it sailed along Egypt's Suez Canal, causing a fire in the shipping container. The shipment was declared as "furniture," but contained illegal cigarettes. Authorities conducted a controlled delivery and arrested the importers (Cusack, 2013a, 2013b). The WCO noted that the use of aptly named cigarette boats to shuttle illicit cigarettes across the Adriatic Sea from Montenegro to Italy has been revived. They report that the Italian *Guardia di Finanza* conducted an investigation that discovered the "existence of a criminal association comprised of Montenegrin and Italian citizens engaged in international cigarette smuggling, using powerful boats leaving from the Montenegrin island of Sveti Nikola to land on the Adriatic coast" (WCO, 2014b).

Box 5.1. Case study: Poland's illicit smoking tobacco

In recent years, Poland has experienced annual tax increases on all tobacco products, driven mainly by the need to meet EU excise tax requirements. In particular, these affected smoking tobacco and the alignment of pipe and fine-cut tobacco taxation. The non-duty paid share of the smoking tobacco market increased to 50% in 2012. While the duty paid volume decreased from 5.272 tons in 2009 to 4.081 tons in 2010 and to 3.546 tons in 2011 (DG TAXUD EU Excise Tables), the sales of cigarette paper and tubes grew continuously over the same period. From the non-duty paid part of the smoking tobacco market, some 60% were counterfeit and some of the counterfeit used well-known cigarette brand names for fine-cut tobacco. The remaining 40% of non-duty paid smoking tobacco was sold as "unmanufactured tobacco leaves" not subject to any excise duty.

The leaves have been sold in specialised premises or convenience shops. The consumers use noodle or tea-cutting machines, or simply document shredders, to manufacture their own smoking tobacco. Due to the increasing size of the problem, the Polish Government included "dried tobacco" into excisable tobacco products. Unfortunately, due to the misconceived definition, "dried tobacco is dry tobacco," the trade wets the tobacco leaves before sale and offers simple equipment to its customers to re-dry it again.

Similar problems with illicit fine-cut tobacco or tobacco leaves have arisen in a large number of countries where tobacco products are not affordable for many consumers (Greece, Hungary, Australia, Slovak Republic, Turkey and may others).

Source: Allen, E. (2013), *The Illicit Trade in Tobacco Products and How to Tackle* (Second Edition), International Tax and Investment Center (ITIC), p. 16.

Measurement and data collection methodologies

The illicit market in tobacco is difficult to measure. In some ways, this is a unique illicit market, in that the product tends to be legal and most of the tobacco market is a legal, regulated market. Unlike Erythroxylum coca, the plant required for cocaine, growing tobacco tends to be a legal activity that spans the globe. Unlike the production of methamphetamines or Ecstasy, the production of cigarettes also tends to be legal and is fairly simple. The market becomes illegal when taxation, intellectual property, importation and health policies and regulations are violated.

When the tobacco product enters the black market, the clandestine nature eludes the watchful eyes of governments, and accurate statistics are not possible. Merriman, Yurekli and Chaloupka, when they attempted to measure the market in 2000, concluded that "smuggling is inherently difficult to study with econometric methodology. Because of its illegal nature, the dependent variable, cigarette smuggling, generally has to be inferred rather than be directly observed. Inferences about smuggling require some confidence about what variables influence the demand for cigarettes in the absence of smuggling and whether illegal behaviour, like smuggling, may be influenced by economic incentives" (Merriman et al., 2000).[7]

When discussing the measurement of the illicit market, the unit of measurement becomes the primary question and one that is not standardised. The three general categories for the unit of measurement are *i)* billion sticks, *ii)* the percentage of the market that is illegal (e.g. illicit penetration rates) and *iii)* the tax gap or tax loss. Different

types of analyses will utilise different units of measurement. Operationalising the unit of measurement is complicated, and no one method of data collection provides an accurate and reliable estimate of the illicit market. For example, while an "in billion sticks" measurement is appropriate for certain analyses, it excludes all other forms of tobacco. Researchers and analysts like to use this variable because the number of cigarettes sold in a pack or bag can vary greatly, and cigarettes are the most popular form of illicit tobacco products.[8] The percentage of the illicit market can be restricted to cigarettes or include other forms of tobacco. Likewise, using a tax gap or a tax loss estimate does not directly measure the profits made by transnational organised crime groups or small-time smugglers; it can provide a ceiling for the potential profits, but it does not measure their actual revenues. A tax-gap analysis can provide a range for potential or estimated tax losses for a government, with caveats on the analysis usually noted.

To date, governments, academics, industry and advocates have not been able to design a measurement and data collection strategy that would consistently measure the illicit tobacco market with accuracy, validity and reliability. Recently, several prominent academics with extensive knowledge of illicit tobacco markets and its complexities concluded that:

> *"It is difficult to measure the size of the illicit tobacco market precisely. Multiple methods have been used to estimate its size, including trade gap analysis; differences in self-reported consumption and tax-paid sales; econometric modelling; population surveys; empty pack collections; pack observation, return and swap studies; and expert opinion. These methods are not easily comparable: they differ in sample sizes, time periods covered and scientific rigor, and they yield different estimates and have different sources of error. Another limitation is the difficulty of separating tax avoidance from evasion, a distinction that is important for law enforcement and policy purposes" (Reuter and Majmundar, 2015).*

Nevertheless, various attempts to measure or estimate the size of the illicit tobacco market have been conducted. Scholars attempt to measure the worldwide market using three different methods and econometric models, mostly involving import and export records, as well as population estimates and other independent variables. Researchers caution that their methods and data can be problematic, such as not including smuggled cigarettes that do not cross international borders or only capturing bootlegging and not wholesale smuggling (Merriman et al., 2000).

A recent methodological guide on the subject has been published by Tobacconomics, a research group housed at the University of Illinois at Chicago. The guide builds upon prior literature, provides a comprehensive overview and analysis of the various methodologies, and systematically evaluates recent literature concerning cigarette tax avoidance and evasion. The researcher identified 11 methodologies for estimating the illicit trade in association with taxation, which are: survey of tobacco users (self-report studies), examination of cigarette packs directly from the consumer, discarded empty pack surveys, examination of cigarette packs from retailers, gap analysis of the difference between legal sales and reported consumption, econometric modelling, analysis of taxes paid and estimated consumption, analysis of the gap between the estimated taxes and actual taxes collected, informant interviews, tobacco trade analysis and analysing data concerning illicit tobacco seizures (Ross, 2015). Each of these methodologies has its own limitations. For many of the methods analysed, the author stresses the need for an

appropriate sampling frame. The guide concludes with the recommendation of using a multi-method approach to increase the validity of the results. The correct multi-method approach will minimise inherent limitations of the various methods, while allowing for the triangulation of the results.

A committee of academics, under the umbrella of the National Academies, a private, non-profit, research organisation, also examined the illicit market in tobacco products; although they were not limited to only measuring tax avoidance and evasion. They concluded that there are seven common research methodologies to measure the size of the illicit market in tobacco products, which could be placed within three typologies: residual methods, direct measurement and expert opinion. According to this committee, "For tobacco, three basic residual approaches have been used: one based on the trade gap, one that compares tax-paid sales and self-reported consumption measures, and one that uses econometric modelling" (Reuter and Majmundar, 2015). The direct measure method involves data collection strategies such as population surveys (including self-report surveys and interviews with consumers), empty pack surveys, pack swaps, etc. Expert opinions can add value to determining the market size, but have their own set of biases, such as the expert's own perspectives and interests, as well as weighing information from the various data sources differently. The committee considered experts to be "customs and law enforcement officials, industry representatives, researchers, tobacco control professionals and other informed parties" (Reuter and Majmundar, 2015).

The Empty Pack Survey (EPS) method has been used by academics and industry to determine the level of illicit tobacco in a given market. Academic studies tend to focus on a city or state, with New York City and Chicago being popular venues in the United States for such analysis.[9] The EPS methodology can be applied at the national level but tends to be expensive, increases sampling concerns and tends to require the assistance of a government or large corporation. The tobacco industry, through KPMG and the Project Sun and Project Star reports, have utilised the EPS methodology in over 100 countries as part of their methodology for country-level estimates; sampling plans are verified for statistical relevance, quota are proportional to population, results are verified for statistical significance and sampling in places of mass confluence is avoided. Appendix I has a more complete discussion of KPMG's methodology, which utilises EPS to produce the Project Sun and Project Star reports.

Like all data collection methods, EPS has its strengths and weakness. Strengths of this method can include its reliance on physical evidence and that the pack has the possibility of indicating whether or not it is a counterfeit product. A weakness concerns sampling basis and small sample sizes (Reuter and Majmundar, 2015; Calderoni, 2014). For example, there may be statistically significant differences between a sample population that discards their cigarette packs in public and one that discards them in private, as well as the types of venues and neighbourhoods that are sampled. That said, the EPS data collection method does try to address some of the weakness of customer and self-report studies, which are biased by the tendency for humans to not disclose criminal or deviant behaviour. In illicit tobacco studies, the respondents might not be aware that they had purchased or consumed illegal products.

For domestic markets, in addition to the empty pack surveys and other methods mentioned above, some jurisdictions calculate "tax gaps" to estimate tax losses related to the illicit trade in tobacco products. Her Majesty's Revenue and Customs (HMRC) in the United Kingdom calculates tax gaps for a range of tax regimes including excise duties

and Value Added Tax. This extends to the estimation of tax losses attributed to tobacco and alcohol fraud. It uses a "top-down" methodology. HMRC analysts estimate the total consumption within the United Kingdom, and then subtract the estimated legitimate consumption. Total consumption is estimated by using data from surveys, an "uplift factor" to account for underreporting, and United Kingdom duty paid and legal cross-border/duty free shopping data. They provide a range for the tax gap, to allow for common methodological issues, such as sampling error and under/over reporting. The revenue loses are determined by using the illicit market calculations and adding them to the financial data (price data, duty and VAT data) (HMRC, 2014b).

While conducting cross-country analyses concerning the size of the market, researchers and analysts tend to use readily available data sources, such as prior versions of the Tobacco Atlas from the American Cancer Society, Euromonitor's estimates and the KPMG data from the Project Star and Project Sun reports. Oxford Economics publishes a report similar to KPMG's reports for Asia. These sources tend use a variety of data collection methodologies to generate their estimates. Table 5.1 illustrates the Tobacco Atlas, KPMG's Project Star Report and Euromonitor estimates for the illicit cigarette market, by OECD country, in 2012. Unfortunately, Tobacco Atlas V did not include estimates for the illicit cigarette market by country. The data for 2012 is the most current year for which all three sources produced an estimate.

The methodology, such as Euromonitor's data and estimates, can be proprietary.[10] The American Cancer Society provides its data sources in an appendix and can vary by country, making it difficult for cross-country analyses.[11] KPMG uses a mixture of data collections to estimate the size of illicit markets within a given country, including *i)* empty pack surveys, *ii)* pack swap surveys, *iii)* consumer surveys, *iv)* mystery shopping, *v)* rolling paper analysis and *vi)* seizure data. Some of its data collection methods include empty pack surveys (EPS), market research, legal domestic consumption, consumer research and various other methods. In addition, KPMG used a "yellow bag survey" conducted by IPSOS in Germany and collected 10 000 packs per month from a sample of waste disposal centres, combining it with an additional street collection to complete the assessment (KPMG, 2013).[12] The academic literature has been debating the use and validity of industry-sponsored data. Some researchers have critiqued its use; they have called on industry to be more transparent with their methodologies and stress that the data should be used with caution. Others conclude that, in some countries and analysis, industry-sponsored data is the only data that lends insight into the non-domestic consumption of illicit tobacco on a regular and annual basis (Gilmore et al., 2013; Reuter and Majmundar, 2015; Calderoni, 2014).

Table 5.1. Comparison of illicit cigarette penetration, in percentages, for OECD countries in 2012

Country	Tobacco Atlas IV	KPMG	Euromonitor	Country	Tobacco Atlas IV	KPMG	Euromonitor
Australia	3.4	No data	4.1	Japan	0.1	No data	0.0
Austria	13.6	9.7	16.9	Korea	0.4	No data	0.4
Belgium	5.0	7.5	3.7	Luxembourg	No data	2.0	No data
Canada	14.0	No data	17.6	Mexico	6.1	15.6	18.6
Chile	1.6	No data	3.3	Netherlands	9.5	11.0	10.9
Czech Republic	10.0	2.2	9.5	New Zealand	3.2	No data	1.3
Denmark	1.0	2.4	1.1	Norway	4.1	No data	4.9
Estonia	36.2	19.7	21.7	Poland	8.5	13.0	24.1
Finland	5.8	16.9	6.0	Portugal	6.3	2.8	9.0
France	12.8	15.7	15.0	Slovak Republic	15.0	0.8	19.8
Germany	8.4	11.1	7.8	Slovenia	8.1	6.7	8.7
Greece	7.0	13.4	12.8	Spain	1.0	7.5	8.2
Hungary	12.4	4.1	7.0	Sweden	15.4	11.9	10.4
Iceland	No data	No data	No data	Switzerland	5.0	No data	5.9
Ireland	33.2	19.1	29.7	Turkey	15.7	No data	15.6
Israel	2.8	No data	2.9	United Kingdom	11.0	16.4	11.7
Italy	2.4	8.5	5.8	United States	6.4	No data	7.1

Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Box 5.2. Measuring tax gaps

Her Majesty's Revenue and Customs (HMRC) in the United Kingdom produces an annual estimate of the "tax gap", that is, the difference between the amount of tax that should, in theory be collected, against what is actually received. HMRC uses a range of internal and external data and different analytical techniques to produce best estimates.[i] The findings are further refined through estimates of the gap by type of tax and the composition of the associated behaviours (such as error, evasion, hidden economy and criminal attack).

An assessment of the UK's tax gap methodologies was carried out by the International Monetary Fund in August 2013. It concluded that "HMRC's tax gap analysis program is comprehensive in tax coverage and effectively addresses its multiple dimensions". The tax gap for 2012-13 is estimated to be GBP 34 billion, which is 6.8% of all tax liabilities. The report found that the illicit market share for cigarettes was 9% with a tax gap market share of 36% with a tax gap of £ 900 million. The estimates are produced using a top down methodology, that is, total consumption is estimated from which legitimate consumption is subtracted, the remainder being the illicit market. Since the launch of the Tackling Tobacco Smuggling strategy in 2000 HMRC estimates that revenue losses have reduced from GBP 3.4 billion to GBP 2.1 billion.

For more information on measuring tax gaps and HMRC's Methodological annex, please visit: www.gov.uk/government/statistics/measuring-tax-gaps.

Sources: HMRC (2014b), Measuring tax gaps 2014 edition. An Official Statistics release 16 October 2014. HMRC (2015a), Tackling illicit tobacco: From leaf to light. The HMRC and Border Force strategy to tackle tobacco smuggling.

As displayed in the table from the Committee on the Illicit Tobacco Market: Collection and Analysis of the International Experience's *Understanding the U.S. Illicit Tobacco Market: Characteristics, Policy Context and Lessons from International*, each methodology has its own strengths and weaknesses, including challenges that concern data collection, reliability and validity. Collecting the data needed to estimate a value for the measurement can be done in several ways. Often, these data sources are combined and weighted to estimate a value for a given market. For domestic analysis, researchers and analysts may use government data, such as tax gaps, as well as the above listed methodologies. It is important to note that all data and data collection methods will have their own strengths and weaknesses.

Accurate tracking and measurement is fundamental to designing appropriate policies that attempt to combat the illicit trade in tobacco products. In addition to the challenges listed above, the clandestine and criminal nature of the trade does not allow itself to be easily measured. Criminals and terrorists who traffic in illicit tobacco do not report their transactions to authorities, use methods to conceal their shipments and activities, do not declare profits on their tax returns, launder their proceeds and so on. As a result, many studies derive their estimates of illicit trade in tobacco from reported seizures, econometric proxies, consumer/market surveys and a variety of other methods that do not yield an accurate estimate. While agreement on a single method remains elusive, there are various methods of measuring the illicit trade in tobacco that, when taken jointly, provide a rough measure of the global scale and prevalence of the illicit trade in tobacco products.

Drivers and facilitators of the illicit trade in tobacco products

Factors that influence the illicit trade in tobacco products can be determined by econometric modelling and/or qualitative assessments. These analyses can be conducted at the micro or macro levels. When analysing the situation via econometric modelling, researchers tend to first measure size of the illicit market and then build the models with variables that are hypothesised to impact the illicit market (factors that facilitate or hinder the illicit trade). The variables in the model will be dependent on the specific analysis and theoretical framework; common variables can include purchasing price, proximity to borders, Internet penetration, taxation levels, smoking prevalence rates, sales per capita, GDP per capita or estimated disposable income, unemployment rates, corruption, presence of organised crime networks, perceived legitimacy of the tax, rule of law/good governance indexes, prosecution rates, punishments and variables measuring law enforcement actions/effectiveness (including border security and seizure rates). The illicit trade in tobacco cannot be attributed to one or two factors; it is the combination of factors, or variables, that interact with each other to allow or hinder the illicit trade. These factors vary over time and jurisdiction, allowing for trend and cross-country/state analyses.

The legitimacy of the taxation, as viewed by the consumer and society, can influence the demand and purchase of illicit tobacco. Research conducted in Edinburgh, Scotland, focused on the attitudes of smokers concerning illicit tobacco products. Some respondents indicated that the smugglers were providing a service, that smuggling was a "reasonable response" to the price, taxation levels on tobacco products were excessive, the taxation encouraged smuggling, and "nearly all respondents expressed dissatisfaction with the price of legal tobacco products. It was thought to be unjust and directed against people on low incomes" (Wiltshire et al., 2001). Additional research conducted in the United

Kingdom revealed that 60%-69% of illicit tobacco buyers claim that cheaper illicit tobacco makes it possible for them to smoke when they otherwise could not afford to purchase legal cigarettes. Although the same survey indicated that only 15%-28% of the respondents were comfortable with illicit tobacco products and 18%-20% of the respondents stated they buy illicit tobacco products (All Party Parliamentary Group on Smoking and Health, 2013). Another study, conducted in Nottingham, United Kingdom, showed similar results for the support of smugglers and the purchase of illicit tobacco products, with the notable exceptions of counterfeit products and smugglers selling to children; respondents did not care for the counterfeit products and selling to children was not supported. Overall, respondents felt the smugglers assisted the local economy and taxation rates were unfair (Stead et al., 2013). Similar views can be found in New York and New York City. When New York increased taxation rates for cigarettes in 2002, smokers in Harlem started to openly buy their cigarettes from the "$5 Man" to avoid the price increase. Smugglers received the same admiration from respondents as they did in the Edinburgh study: "a justifiable and appreciated response" (Shelley et al. 2007).

Often cross-border shopping, tourism and other forms of the illicit trade, perpetrated by consumers or smaller-scale smugglers, are attributed to the final price per pack and the proximity of cheaper cigarettes. As mentioned above, the perceived legitimacy of the tax can be associated with this type of illicit trade. For small-scale smuggling within the United States, one study found that while most smokers purchased their product within their state, some consumers were willing to travel up to 3 miles (approximately 4.8 kilometres) to save USD 1 per pack, and heavy smokers were more likely to travel to a low-tax jurisdiction to buy their cigarettes. They also concluded that a state's cigarette sales are impacted by other state's taxation levels (Chiou and Muehlegger, 2008). Another study concerning the United States found that "13% and 25% of consumers purchase cigarettes in a lower-price state or Native American Reservation" (Lovenheim, 2008).[13]

Research on small-scale smuggling within 23 European countries, published in 2000, indicated that "the greater the incentives for illegal importation, the lower were recorded sales. Similarly, the greater the incentives for illegal exportation, the higher were recorded sales. We estimated that, in a typical European country, bootlegged cigarettes accounted for about 3% of domestic consumption" (Merriman et al. , 2000). It should be noted that the researchers used "frequency of travel between countries" instead of proximity for their cross-border shopping analysis. For cross-border shopping, the jurisdiction where the product is purchased and sold may not be adjacent to each other. In the United States, cigarettes are frequently purchased in Virginia with the intent of selling them in New York. In the United Kingdom, cross-border shoppers and small-scale smugglers will travel to several countries in continental Europe, purchase tobacco products with lower taxes and then return to the United Kingdom.

Corruption is often discussed as a facilitator for various forms of illicit trade, including the illicit trade in tobacco products. Several studies in the early 2000s examined corruption in regards to cigarette smuggling. They found corruption to be a significant factor, as well as the presence of organised crime, public acceptance, informal distribution networks and widespread street selling (cigarettes and other goods) helped large-scale smuggling organisations (Merriman et al., 2000). In later research, the analysis indicated that the state's ability to govern, in many sections of society, affects cigarette smuggling. A state's ability to govern effectively and score low on the Fund for

Peace's "failed state index" (now called the Fragile States Index) is related to a reduction in the percentage of the cigarette market that is illegal (Melzer, 2010).

Corruption, border security, law enforcement effectiveness, and other variables related to the ability to effectively govern, all affect large-scale smuggling operations. Various forms of illicit tobacco being moved in large-scale smuggling operations tend to be moved in 40-foot shipping containers, with false bills of lading and can be linked to other crimes, such as trade-based money laundering schemes. The ability of governments to detect the illegal product is linked to its ability to govern and secure its borders.

Academic research that leans more toward qualitative assessments has also examined key variables for both small- and large-scale smuggling operations. The literature, usually found within criminology, tends to categorise the factors that facilitate cigarette smuggling into five broad categories: *i)* price differentials between duty-free and the legal retail prices; *ii)* price differentials in retail prices or taxation rates between jurisdictions; *iii)* the existence of corruption among border and customs officials, *iv)* the long-term involvement of organised crime groups in the cigarette trade and other illicit markets; and *v)* the oversupplying of tobacco products to key markets, or the production of a tobacco product that exceeds the consumption rates for the brand's legal market (Beare, 2002; Joossens and Raw, 2008; van Duyne, 2003; von Lampe, 2005, 2006). [14]

Free trade zones

Free trade zones (FTZs) have been linked to the illicit trade in tobacco products, possibly as a facilitator or as an important trade and economic zone that is being exploited by criminals. As the magnitude of smuggling has changed around the globe, attention has turned to the role of FTZs, which, paradoxically, were created to facilitate legitimate business and economic growth, but have turned out to be vulnerable to illicit activity and transnational crime. The FTZ offers a preferential environment for manufacturing, wholesale, warehousing, import and export facilities, and goods introduced into a zone can undergo a range of economic operations, including assembly, processing, repackaging and transhipment. This environment can be exploited by criminals and organised crime.

FTZs have proliferated in recent years. The 2010 Financial Action Task Force (FATF) report *Money- Laundering Vulnerabilities of Free Trade Zones* stated that there were "approximately 3 000 FTZ in 135 countries around the world, with a total turnover of billions of US dollars" (FATF, 2010a).

FATF acknowledged that FTZs are central to the integrated global economy. They stimulate economic growth and play a central role in business for many countries and leading manufacturers. However, the 2010 report also carries the warning that standards, oversight and regulations governing FTZs have not kept up with the pace of these developments, and that as a result, illicit actors have been able to take advantage of inadequate oversight and the lack of transparency in zones to launder the proceeds of crime, finance terrorism, facilitate the proliferation of weapons of mass destruction (WMD) and smuggle contraband. Although the conditions for establishing FTZs may be regulated by the local customs or relevant management authority, the extent of customs controls or interventions is often insufficient or absent.

In October 2014, the WCO announced the results of its first global operation against the illicit trade in tobacco. The operation, codenamed *Gryphon*, confirmed that FTZs play

an important role in the smuggling of cigarettes. "Consignments arriving in these zones are subsequently repacked into other containers, enabling the illicit cigarettes to be lost or disappear. They then leave the zone as low-value goods (e.g. textiles) either mis-declared or concealed in other shipments" (WCO, 2014a).

The issue of illicit whites, or cheap whites, has caught the attention of policy makers, researchers, international organisations and industry. The KPMG Project Sun analysis reported that illicit whites are an increasing component of counterfeit and contraband in the EU, with an exponential growth in the category from virtually zero in 2006 to 37% in 2014 (KPMG, 2015). FATF also drew attention to FTZs in its Illicit Tobacco Trade Report, June 2012. It highlights the financial incentive to source product in a lower-priced market and transport, distribute and sell in a higher-priced market. The report examines the illicit whites phenomenon, describing the product thus:

> *"Cheap whites are factory-made cigarettes produced with the approval of a licensing authority in that jurisdiction. These are sometimes known as illicit whites, but this is an incorrect term, as they are produced legally" (FATF, 2010b).*

Meanwhile, the concentration of cigarette manufacturers operating in the FTZs in the United Arab Emirates (UAE) continues to grow. The 2013 European Union (EU) strategy "Stepping up the fight against cigarette smuggling and other forms of illicit trade in tobacco products" claims "whilst in the past, the UAE appeared mainly as a point of transhipment, current information clearly points to its new role as an important production location for other brands, particularly in its free zones" (Communication from the European Commission to the Council and the European Parliament, 2013).

The characteristics relied upon in the promotion of Jebel Ali factories include their ability to produce their own brands, as well as contract manufacturing, the utilisation of technologically advanced machinery, round-the-clock operations with high yield and logistical proximity of plant, port and time to market. The growing prosperity of the Jebel Ali Free Zone is illustrated by a 7% growth in trade in the first six months of 2014. Cigarettes were the number one non-oil export, valued at AE 2.2 billion, or 19% of the total exports from the free zones in the same period (Bouyamourn, 2015). Unlike in the UAE, where 51% of a business must be owned by UAE nationals, companies located in the FTZ may have 100% foreign ownership.

In Central America, Insight Crime reported claims that an FTZ in the Corozal district of Belize has become a hub for the illicit cigarette trade in the region, highlighting how lax customs controls create criminal opportunities, with regional distribution of cigarettes from India, China, Switzerland, Paraguay and Panama (Cawley, 2013).

In common with Jebel Ali, the Colón Free Trade Zone (CFTZ) occupies a strategic trading position, geographically situated at the Atlantic gateway to the Panama Canal, with access to both the Atlantic and the Pacific. The CFTZ is the world's second-largest and handles more than USD 16 billion in imports and re-exports each year.

The U.S. Department of State International Narcotics Control Strategy Report 2015 posits that the Colón FTZ continues to be vulnerable to illicit financial activities and abuse by criminal groups, due primarily to weak customs enforcement and limited oversight of trade and financial transactions (U.S. Department of State, 2015). Bulk cash is easily introduced into the country by declaring that it is for use in the CFTZ, but there is no official verification process to confirm its end use for lawful business in the free

zone. Furthermore, the lack of integration of the CFTZ's electronic cargo tracking system with Panamanian Customs hinders timely analysis.

Supply chain management

To counteract some of the facilitators and vulnerabilities listed above is to attempt to control the supply chains related to tobacco products. When discussing supply chains, the conversation can include everything from tobacco in the field to specialised filters and papers for cigarette production, to the packaging of the cigarettes and monitoring the completed product until it reaches the end consumer.

Accordingly, several countries use the regulation of supply chains as an approach to reduce illicit trade in tobacco. The European Union, through the European Commission's European Anti-Fraud Office (OLAF) and its OLAF Cigarettes Task Group, has entered into legally binding agreements with four significant major tobacco manufacturers. The agreement delineates the steps the four manufacturers must follow to ensure that their products do not enter the black market.[15] Stating the obvious, illicit manufacturers and manufacturers producing cigarettes for the illicit market in Europe are not bound by these agreements. There are specific actions that are required by these agreements, such as requirements to track and trace the movement of tobacco products and executing stringent due diligence with vendors of tobacco products. These measures are also promoted by international treaties, such as the WHO Framework Convention on Tobacco Control (FCTC) and its Protocol to Eliminate the Illicit Trade in Tobacco Products, and by regional regulations (the European Union's Tobacco Products Directive), national laws and actions of governments with UN agencies. Research has shown that while the overall level of illicit tobacco has decreased in Europe, illicit whites' percentage of the illicit market has increased, and accounts for 33% of all illicit tobacco sales (KPMG, 2014). Since 2006, the market share of illicit whites has steadily increased in Europe, with an average of 27.9% in 2013 (Transcrime, 2015).

One of the most effective means to control diversion of tobacco products into illegal channels is tracking and tracing the product from manufacture to end retailer. This activity is present in many industries, from logistics to pharmaceuticals. It provides law enforcement information so they may authenticate the origin and verify the flow of products. According to the European Commission, the tobacco industry's tracking and tracing systems "have allowed OLAF and the Member States rapidly to recreate the route taken by genuine smuggled cigarettes from the factory into the hands of the smugglers" (European Commission, 2006).

The core of "track and trace" is providing unit packs with unique identifiers. These have to contain a set of dynamically changing data and must be able to be applied on the packs in high-speed manufacturing environments (up to 20 000 units a minute). The data in the unique identifiers is readable by various types of industry-grade scanners, and is expected to be exchangeable between different data management systems in a standardised manner. Under their agreements with the European Union, tobacco manufacturers developed a suite of technology solutions to address this challenge, which has been operating across national borders for more than 10 years.

Another effective means to curb the diversion of genuine cigarettes from the legitimate supply chain is the establishment of know-your-customer policies and practices along the supply chain. The FCTC and its protocol provides a solid framework to

establish due diligence regulations that have a proven potential to decrease the black market of cigarettes. As mentioned earlier, stringent due diligence is required from tobacco manufacturers under their agreements with the European Union.

On top of "track and trace" and due diligence policies, the FCTC and its protocol also calls for the establishment of licensing, "the manufacturing, import and export of tobacco products and manufacturing equipment, and establishing a global tracking and tracing regime to assist in the investigation of illicit trade" (WHO, 2015b). Some governments have already started to utilise these regulatory options to control certain areas of illicit trade. The Ukrainian Parliament adopted a set of anti-illicit tobacco regulations in August 2014, one of them being a licensing requirement for manufacturing equipment. This provision has significantly contributed to better controls of unregistered manufacturers that were predominantly producing for the illegal market. Another example of the effective use of licensing is the amendment of the Excise Law by the Polish Parliament. This law, adopted in August 2015, was designed to establish better controls of tobacco traders' operations. Reportedly, lawmakers have high hopes that the newly introduced licensing regulation will contribute to curbing criminal activities related to trading in raw tobacco, which has become a major issue in Poland in recent years.

The focus of attention in supply-chain management solutions tends to be on finished products, such as cigarettes. Recently, attention has moved to the precursor ingredients for cigarettes. The control of the production and supply of key components in cigarettes presents a structured approach to the reduction of illicit trade. Small-scale production of illegal cigarettes may use "rolling machines", but to produce cigarettes in large quantities, illegal manufactures need specialised machinery similar to those used by legal manufactures. The major manufacturers take measures to ensure their manufacturing equipment is not used for the illicit production of cigarettes (Reuter and Majmundar, 2015).[16]

The three components – tobacco, filter and paper – required to produce a cigarettes are more difficult to monitor than manufacturing equipment. As stated above, tobacco is legal to grow in more than 120 countries. According to the 2015 Tobacco Atlas, tobacco cultivation occurred on approximately 4.3 million hectares of land world wide, resulting in approximately 7.5 million tons of tobacco leaf (American Cancer Society, 2014). The raw tobacco market is highly fragmented, easily accessible and is unregulated in some countries. Given that millions of farmers grow tobacco all over the world, implementing rigorous supply-side controls in the effort to prohibit illicit manufacturing of tobacco products would be a challenge. Likewise, attempting to control paper and its use in illicit cigarette production would be difficult. While cigarette paper is a unique type of paper that only a few manufacturers produce, the product can be easily substituted in the production of illegal cigarettes (Reuter and Majmundar, 2015).[17] Controls on the supply of cigarette components have therefore focused on filters.

The most commonly used cigarette filter is made with a wood-pulp-based synthetic fibre called "cellulose acetate". The cellulose acetate is transformed into "acetate tow" and is produced by very few companies world wide. Cellulose acetate can be used in highlighters, pens, markers, oil filters and medical devices, and it is extensively used to produce cigarette filters (Eastman Estron, n.d.).[18] According to the Committee on the Illicit Tobacco Market (2015), "more than 80% of world production [of acetate tow] is reportedly used in the manufacture of cigarettes" (Reuter and Majmundar, 2015).[19] The

use of an acetate tow filter is preferred in cigarette manufacturing, and there appears to be no consumer-preferred substitute.

Producing acetate tow requires large-scale capital investments, and the product is difficult to produce. The barriers for entering into the acetate tow production industry are high, and the industry is highly concentrated. There are five primary manufacturers of acetate tow, and they supply nearly all of the product required by the tobacco industry. On these grounds, the Committee on the Illicit Tobacco Market (2015) concluded that "acetate tow could be controlled to make illegal manufacturing of cigarettes more difficult" (Reuter and Majmundar, 2015).[20] The committee also noted that controlling the acetate tow filter supply chain could have an impact on counterfeit cigarettes, because they must look like the real product. It added that "the tracking and tracing of acetate tow also could be facilitated by the fact that it has a unique code in the harmonised tariff schedules of Brazil, Canada, China, the European Union and the United States" (Reuter and Majmundar, 2015).[21]

The Global Acetate Manufacturers' Association (GAMA) has taken measures, such as know-your-customer procedures, to curb illicit trade. In 2006, GAMA introduced its voluntary system and includes know-your-customer audits every two years. Not all manufacturers are members of GAMA, and the GAMA system is voluntary. It is speculated that acetate tow is currently being supplied to certain countries where estimated supply greatly exceeds anticipated demand. The excess is thought to be used for the production of cigarettes, which are then smuggled internationally. The international community may have responded to the need to monitor acetate tow when, in 2014, the WCO introduced a new category, "artificial filament tow" to its International Convention on the Harmonized Commodity Description and Doing System (1983), Amendments to the Nomenclature, Appended as an Annex to the Convention. A subcategory to "artificial filament tow" includes cellulose acetate, and its inclusion could assist the global efforts to detect and reduce the amount of acetate tow filters being used in illicit production. The new coding scheme will enter into force in 2017 (WCO, 2014c).

Tackling demand for illicit tobacco products

While global efforts to reduce illegal trade in tobacco products have focused on enforcement, to stem supplies, there are a few examples, such as those from Canada and the United Kingdom, of attempts by authorities to reduce demand. The Royal Canadian Mounted Police (RCMP) included illicit tobacco in its Contraband Tobacco Enforcement Strategy Progress Report (May 2008-May 2009). Its strategy included disrupting organised crime with traditional law enforcement efforts, as well as a public awareness campaign about the illicit market in tobacco products. Priority 5 of its strategy included "Heighten awareness about the public safety and health consequences of the illicit tobacco trade" (RCMP, 2010). To that end, the RCMP's strategy included releasing declassified versions of intelligence assessments on illicit tobacco and the bad actors associated with it, such as organised crime. Additionally, the strategy included briefing police chiefs and developing public service announcements concerning the harms associated with illicit tobacco. It is notable that the RCMP educated the population who benefits from the illicit trade in tobacco products. More important, the RCMP concluded that key government and enforcement decision-makers needed to have an awareness of the nature, harms and reach of illicit tobacco (RCMP, 2010).

Sustained efforts to reduce demand for illegal tobacco products have been made by the Health and Local Authorities in the United Kingdom on the basis that illicit tobacco undermines the effect of tobacco control strategies. The first efforts took place in the north of England and were funded by the Health Authority. The public awareness campaign focused on two key messages: "IT [illicit tobacco] made it easier for children to start smoking, and that IT brought crime into the community" (McNeill et al., 2013). A mixed-method evaluation of this public awareness campaign, including interviewing stakeholders at the time of the campaign and a year later, concluded:

> *"To our knowledge, this is the first assessment, globally, of any programme developed to reduce the demand as well as the supply of IT. Indeed, the main preoccupation of IT work in the past has been on supply, but the large numbers of buyers (and small sellers) identified across the sociodemographic spectrum highlights the limited likely impact of approaches focusing purely on supply. Misperceptions about IT were also observed, which militated against an appreciation of the wider harms of tobacco smuggling arising from its links to organised crime, irrespective of the financial and health costs. The resultant Get Some Answers campaign was based on evidence collected by the Programme that the messages that would influence demand were those focussing on the harm IT causes children and the criminality that IT brought into communities. Awareness and the volume of calls concerning supply increased, although only small attitudinal shifts were observed, mostly in the preferred direction. The one channel of IT supply that reportedly increased, namely shops, could be a consequence of some of the imagery about street sellers shown in the campaign. The sale of IT through shops is of concern, but retailers in England can currently be fined for doing this" (McNeill et al., 2013).*

Studies on demand reduction tend to focus on smoking overall and are not limited to illicit products. For example, Australia's National Tobacco Strategy 2012-2018 includes very little about tackling demand for illegal products, as the focus seems to be on reducing smoking overall by means of a number of regulations on supply, workplace smoking bans, public campaigns to stop smoking and assistance in giving up smoking. There is no mention of any specific programme to reduce demand for illicit products. The focus is on maintaining enforcement and international co-operation to stem supplies (Commonwealth of Australia, 2012). Demand reduction policies for tobacco can have an impact on the demand for illicit tobacco products. However, demand reduction strategies could be more effective if illicit tobacco was included as part of the strategy.

Box 5.3. Public awareness campaign in Nova Scotia

In 2008, Crimestoppers started a public awareness campaign to combat illicit tobacco in Nova Scotia, Canada. Crimestoppers is a non-governmental organisation that allows the public to provide anonymous tips to law enforcement about illegal activities (http://crimestoppers.ns.ca/category/illegal-tobacco/). This public awareness campaign featured television spots and Internet clips that focused on illicit tobacco. The initial phase of the campaign aimed to educate the public that selling illicit cigarettes was subject to penalties. Later phases of this campaign emphasised the link between illicit tobacco and organised crime and the negative impact illicit tobacco can have on the local community. These spots have aired during hockey games, providing wide exposure to the public. According to data provided by Crimestoppers, the number of tobacco-related tips has nearly tripled since the start of this campaign, from 213 from 1 January 2000 to 31 December 2008 to 609 from 1 January 2009 to 31 December 2014.

Links with organised crime and terrorist groups

In terms of circumventing law enforcement while making substantial profits, cigarettes are an ideal product for criminal groups. This is a product that has high consumer demand, is lightweight and is highly profitable, due to the relatively low cost of production and the high price at point of sale, due in most part to high levels of domestic taxation. If and when the illegal products are discovered, the risk of a lengthy prison sentence is low. Therefore, the illicit trade in tobacco products is enticing for organised crime and terrorist organisations, and has been for decades. There are numerous historic and contemporary examples of serious organised crime groups and terror organisations linked to the illicit trade in tobacco products.[22]

In the 1980s, illicit tobacco started to become a revenue source for certain actors in North Africa. Lacher contends that "Cigarette smuggling in particular has greatly contributed to the emergence of the practices and networks that have allowed drug trafficking to grow" (Lacher, 2012). The links of a senior commander of Al-Qaeda in the Islamic Maghreb (AQIM), Mokhtar Belmokhtar, to cigarettes smuggling is so commonly assumed that his moniker is "Mr. Marlboro". AQIM realises enormous profits, either by charging a "tax" for the safe passage of cigarettes or by facilitating their transport (Doward, 2013). When AQIM ousted Belmokhtar for prioritising financial gains over the group's ideological and religious objectives, he founded a new terrorist group, Katibat El-Mulathameen ("the Signed-in-Blood Battalion"), and continued engaging in the trafficking of tobacco products (INTERPOL, 2014a). However, AQIM is not the only terrorist group that raises funds through the illicit trade in tobacco. More than a decade ago, a commentary in *Police Chief* drew attention to not only the immense profits and relatively low penalties associated with cigarette smuggling, but also the link to numerous terror organisations, such as Hezbollah, the Real IRA (RIRA), Al-Qaeda, Hamas, the Kurdistan Workers' Party (PKK) and Egyptian and Palestinian Islamic Jihad (Billingslea, 2004). In 2009, the International Consortium of Investigative Journalists reported that the Taliban, renowned for its heroin trafficking, also profits from illicit tobacco. Estimates indicate that revenue from illicit cigarette "trade accounts for as much as 20% of funding for militant groups in this region, second only to heroin production" (Willson, 2009).

More contemporary examples of illicit tobacco funding terrorism and organised crime may be found in and near Syria and Iraq. It has been estimated that cigarette smuggling has increased by 135% since the Syrian civil war began (Gingeras, 2014). Chris Rawley, vice-president of the Center for International Maritime Security (CIMSEC), documented a particular cigarette smuggling network that involves both the Assad regime and the Islamic State of Iraq and the Levant (ISIL, also known as IS, ISIS and Daesh) and could account for the increase of illicit tobacco in Turkey. Cigarettes were loaded on a ship in Bulgaria, moved across the Black Sea, through the Strait of Bosphorus and then either to Syria or to the Persian Gulf by way of the Red Sea. The illicit cigarettes were then offloaded and sold in Syria or smuggled into Turkey. They eventually entered ISIL-controlled territory; the group profited from this illicit trade by "taxing" the transportation of these cigarettes as they pass through various transhipment points. According to Rawley, "The product and profit not only support ISIL and their organised crime network, but other Al-Qaeda affiliates and foreign fighters drawn to the region. The illicit tobacco trade is an instrumental part of their funding portfolio, which also includes weapons trafficking and sale of stolen oil." The cigarette-trafficking routes and taxation

schemes used by ISIL are similar to those used by the PKK before ISIL took over the region (Rawley, 2014).

Academic research has documented the connections between corruption, organised crime and terrorism and their involvement in a variety of illicit trade, including the illicit trade in tobacco. Academics have documented connections between cigarette smuggling in general and to specific terrorist organisations, such as AQIM, the Kosovo Liberation Army (KLA), PKK, RIRA and Hezbollah (Shelley, 2014; Shelley and Melzer, 2008). And more recently, researchers have outlined how ISIL uses illicit trade, including cigarette smuggling, to finance terrorism (Shelley, 2014).

The WHO stated "Cigarette smuggling has also been linked to armed insurgent groups in the Middle East, Africa and other parts of the world. In areas of central and eastern Africa, research has found that rebel groups accused of mass murder, torture and forced recruitment of children have used the illegal trade of tobacco products to finance their activities" (WHO, 2015a). Similarly, and according to the United Nations Office on Drugs and Crime (UNODC), cigarette smuggling in West Africa is a significant revenue source for illicit actors, with illicit cigarettes accounting for approximately 80% of the market and the value estimated at USD 774 million (UNODC, 2009). When looking at the African continent as a whole, the illicit market is approximately 15% (UNODC, 2009). The cigarettes flooding West African markets appear to originate in Europe or Asia. For Asia, the cigarettes originate in Viet Nam and China, flowing through various FTZ. The cigarettes tend to land at West African seaports and make their way into North Africa. The European cigarettes, originate in Luxembourg, Greece and Bulgaria, and transit through Jebel Ali, before arriving at West African seaports (UNODC, 2009). Illicit whites from Dubai also enter the market.[23] INTERPOL has also documented the link between cigarette smuggling and rebel groups in Africa (see Box 5.4.).

Box 5.4. Funding the rebels

In 2009, a smuggler pleaded guilty to tax evasion at a court in Eastern Cape Province, South Africa. He was originally arrested at Heathrow Airport in London, following the issue of an INTERPOL red notice for his arrest. He was extradited to South Africa, where he had several businesses to import tobacco and produce cigarettes for both export and domestic sale. The smugglers admitted that, thanks to unpaid taxes and duty, he had received a financial benefit of ZAF 60 million (USD 5.41 million). He was sentenced to pay this back at a rate of ZAF million (USD 90 000) per month.

On 12 December 2008, the United Nations Security Council published a report by its Group of Experts on the Democratic Republic of the Congo (DRC). The report accused the smuggler of channelling money from his companies to a Congolese rebel group called *Congrès National pour la Défense du Peuple* (National Congress for the Defense of the People, or CNDP). The CNDP is one of the rebel groups fighting to control the mineral-rich territory in DRC and has been implicated in human rights violations including murders, the recruitment of child soldiers, mass rape, slavery and torture.

Source: Interpol (2014b), Adapted from *Against Organized Crime: INTERPOL Trafficking and Counterfeiting Casebook 2014*, p. 32, available at: http://www.interpol.int/News-and-media/News/2014/N2014-057

The United States has several notable cases involving a connection between cigarette smuggling, organised crimes and terrorist involvement. Operations Smoking Dragon and Royal Charm linked counterfeit cigarettes to organised crime, counterfeit pharmaceuticals, counterfeit currency, surface-to-air missiles, money laundering and various other national security concerns (see Box 5.5 below). In Operation Smokescreen, local and federal authorities spent years meticulously gathering surveillance and evidence on a group of individuals known as the "Charlotte Cell," who were involved in cigarette smuggling as well as a host of other crimes, including immigration and visa fraud, identity theft, money laundering, bank fraud and mail and wire fraud. The Charlotte, North Carolina, cell of Hezbollah smuggled approximately USD 7.9 million in cigarettes from North Carolina to Michigan. Authorities were able to document that the cell sent some of the proceeds to Hezbollah leaders in Lebanon. The cell also paid for dual-use equipment purchased in Canada and then shipped to Lebanon from Canada because it was illegal to do so in the United States. The cell's members were convicted of numerous charges, including the transportation of contraband cigarettes and providing material support to a designated foreign terrorist organisation. The conviction originally carried a sentence of 155 years in prison, although the sentence was later reduced to 30 years (Shelley and Melzer, 2008; Swecker, 2012; DHS/ICE, 2011).

In 2013, an investigation by New York state and New York City, as well as federal authorities, investigated a smuggling ring that generated USD 22 million in profits. Dubbed "Operation Tobacco Road", the investigation found that the group had transported USD 55 million worth of cigarettes from Virginia to New York, where they sold them without paying taxes to the state of New York or New York City. Authorities also uncovered counterfeit tax stamps. The conspiracy involved 16 people, 14 of whom where in the country illegally. Conspirators were charged with enterprise corruption, money laundering, related tax crimes and other crimes. Authorities also uncovered a murder-for-hire conspiracy by two of the men charged. They had planned to murder individuals they believed to be witnesses against them and helping law enforcement with the case (Brand, 2013; State of New York, 2013a, 2013b).

Not all cigarette smuggling schemes are linked to terrorist organisations. In 2012, a UK national and his accomplices attempted to disguise 13 million counterfeit cigarettes as yogurt, ice cream and pizza and smuggle them into the United Kingdom by hiding the cigarettes in lorries and driving them through the ports of Dover and Newhaven (BBC, 2012). "According to HM Revenue and Customs (HMRC), Allison admitted he had been dealing in illicit cigarettes for a number of years, and had lied to investigators to hide his criminal income. His earnings funded gambling, holidays, shares and two flats in Glasgow, Scotland, and if he had successfully smuggled the cigarettes, they would have avoided paying GBP 2.7 million (USD 4.4 million) in duty to the government" (INTERPOL 2014b).

Box 5.5. Operations Smoking Dragon and Royal Charm (2005)

Operations Smoking Dragon and Royal Charm were multi-year operations conducted in the United States and led by the Federal Bureau of Investigation (FBI) and in co-operation with numerous American and Canadian law enforcement agencies. Smoking Dragon was primarily conducted on the West Coast, while Royal Charm was carried out on the East Coast. Smugglers shipped approximately USD 40 million worth of counterfeit cigarettes and other illegal commodities into the United States from China and the Democratic People's Republic of Korea. Smugglers also shipped Ecstasy, methamphetamines, counterfeit pharmaceuticals, millions of dollars in "Supernotes" (highly deceptive counterfeit currency), and Chinese military-grade weapons, including the QW-2 surface-to-air missiles. The operations led to the indictment of 87 individuals from the United States, Canada, China and Chinese Taipei.

The illicit trade was shipped from China directly to ports in the United States, such as the Port of Newark in New Jersey and the California ports of Los Angeles and Long Beach, and distributed throughout the United States and Canada. False bills of lading for toys, rattan furniture, wicker baskets and other goods were used as an attempt to conceal the 40-foot shipping containers' cargo of counterfeit cigarettes, goods and currency, as well as drugs and weapons. These operations were not the only cases linked to the Democratic People's Republic of Korea. From 2002 to 2005, counterfeit Marlboro cigarettes originating from the Democratic People's Republic of Korea were detected in 1 300 incidents within US jurisdiction.

During this period, US Department of Justice, US Secret Service, Internal Revenue Service (IRS) and other US law enforcement investigated a group who were engaged with the Democratic People's Republic of Korea to manufacture and distribute counterfeit Marlboro cigarettes. During the investigation, these individuals provided agents with counterfeit pharmaceuticals and Supernotes manufactured in the Democratic People's Republic of Korea and smuggled through China. This case culminated in the arrest and conviction of three individuals for criminal conspiracy, smuggling, distribution of counterfeit cigarettes, conspiracy to distribute US securities and money laundering. Over USD 1 million was forfeited as the proceeds of the defendants' illicit activities through the use of an unlicensed money remitter in Hong Kong, China and a *hawala*-type financial system in mainland China. The Hong Kong, China police participated in the financial investigation.

Sources: Adapted from U.S. Department of State (2015) The Global Illicit Trade in Tobacco: A Threat to National Security. Washington, D.C.
UNODC (n.d.), "Operations "Smoking Dragon" and "Royal Charm"" SHERLOC, UNODC, http://www.unodc.org/cld/case-law-doc/counterfeitingcrimetype/usa/2011/operations_smoking_dragon_and_royal_charm.html (accessed 10 September 2015).

Department of Justice (2005), "Press Release: Federal Racketeering Indictment Targets International Smuggling,
Counterfeit Currency Operation", http://www.justice.gov/archive/opa/pr/2005/August/05_crm_426.htm.

United States V. Co Khanh Tang, et al. (2005), Government Information and International Security Subcommittee of the Committee on Homeland Security and Governmental Affairs (2006), North Korea: Illicit Activity Funding in the Regime (April 2006). Hearing before the Federal Financial Management, United States Senate. One Hundred Ninth Congress,
Second Session, p.5. http://www.access.gpo.gov/congress/senate.

US v All Funds on Deposit at Chiyu Banking Corp LTD. Account No. 0373192057264 (2005), in the Name of Kwok Hui Ha, US District Court of DC.

Potential responses

In order to combat the illicit trade in tobacco products, governments must work together and with a variety of partners. There are various treaties and agreements that are applicable to combating illicit tobacco. The WHO FCTC and its accompanying protocol, the Protocol to Eliminate Illicit Trade in Tobacco Products, are often cited in anti-illicit trade efforts. Additional international treaties that can be used to fight illicit tobacco include the United Nations Convention on Transnational Organized Crime (UNTOC), the United Nations Convention Against Corruption (UNCAC), the International Convention for the Suppression of the Financing of Terrorism (Terrorist Financing Convention) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). The various treaties not only highlight the importance of international co-operation but also the vast nature of illicit tobacco and its nexus to other crimes, such as intellectual property rights violations, terrorism, corruption, money laundering and organised crime. The illicit trade in tobacco can only be fought through a synergetic and sometimes creative use of a number of international treaties.

Framework Convention on Tobacco Control

The World Health Organization's (WHO) Framework Convention on Tobacco Control (FCTC) entered into force in 2005 and established a wide array of measures on smoking prevention, including Article 15 on combating illicit trade in tobacco products. As of August 2015, there were 180 parties to the FCTC. In response to the growing illegal trade in tobacco products parties to the WHO FCTC negotiated and adopted, in 2012, the Protocol to Eliminate Illicit Trade in Tobacco Products. The Protocol further builds on the provisions of Article 15 aiming to eliminate all forms of illicit trade in tobacco products, through a series of measures to be taken by countries in co-operation with one another. The Protocol defines illicit trade as "any practice or conduct prohibited by law and which relates to the production, shipment, receipt, possession, distribution, sale or purchase, including any practice or conduct intended to facilitate such activity" (WHO, 2013).

Under Article 15 of the FCTC, Parties recognised that elimination of all forms of illicit trade is an essential component of tobacco control. They further agreed to a series of measures to pursue this goal, including:

- Adopting measures to ensure that unit packs of tobacco products are marked to assist Parties in determining origin, point of diversion and final destination and to monitor, document and control the movement and legal status of tobacco products.
- Considering the development of a tracking and tracing regime.
- Monitoring and collecting data on cross-border trade in tobacco products.
- Adopting appropriate penalties and remedies against illicit trade.
- Ensuring all confiscated manufacturing equipment and illicit products are destroyed or disposed of.
- Adopting measures to monitor, document and control tobacco products held or moving under suspension of taxes or duties.

- Enabling the confiscation of proceeds derived from illicit trade.
- Providing relevant data in periodic reports to the Conference of the Parties.
- Promoting co-operation between national, regional and international agencies to combat illicit trade.
- Endeavouring to adopt further measures, including licensing, to control or regulate the production and distribution of tobacco products.

Protocol to Eliminate Illicit Trade in Tobacco Products (Protocol)

Recognising the importance of international collaboration to combat illicit trade, the Parties to the FCTC established an expert group to build upon Article 15 and develop a template for a Protocol on illicit trade. Once the work of the expert group concluded, an intergovernmental negotiating body was established to draft the Protocol, and after five negotiation sessions, a draft was adopted by the Parties to the FCTC in November 2012. As of August 2015, there were 54 signatories and 9 Parties to the Protocol, which will take effect on the 90th day following the deposit of the 40th instrument of ratification.

The Protocol is an international legal instrument that aims to prevent the diversion of tobacco products from the licit tobacco supply chain and increase penalties for and enforcement against illicit trade. Many of its provisions elaborate upon the initial set of measures agreed to in Article 15 of the FCTC. The Protocol promotes co-operation at the national, regional and international levels and reflects an inclusive approach involving all affected stakeholders and relevant processes (INTERPOL, 2014a). A whole-of-government approach will be required to effectively implement the full range of Protocol requirements. At the national level, Parties will need to designate competent authorities, such as customs and police, to lead implementation of certain provisions.[24]

Three sections that deal specifically with how to combat illicit trade are: Supply Chain Controls (Articles 6-13), Offences (Articles 14-19) and International Co-operation (Articles 20-31). Some examples of the areas covered in these sections are listed below. This list is not intended to be a comprehensive representation of the Protocol. For a full copy of the Protocol and to view all of its articles, please visit www.who.int/fctc/protocol/.

Supply chain controls

- Licensing for manufacturers, importers and exporters of tobacco products and manufacturing equipment.
- Tracking and tracing of all tobacco products to the first customer who is not affiliated with the manufacturer.
- Record-keeping by all persons in the supply chain of tobacco, tobacco products and manufacturing equipment.

Offences

- Subjecting offences to effective, proportionate and dissuasive criminal or non-criminal sanctions.
- Considering adoption of measures for seizure payments.

- Ensuring the disposal or destruction of confiscated tobacco, tobacco products and manufacturing equipment.

International co-operation

- Enforcement information sharing between Parties to combat illicit trade.
- International assistance and co-operation to build capacity and collaborate in combating illicit trade.
- Ensuring the protection of sovereignty in carrying out the obligations of the Protocol.

While the Protocol presents an important policy roadmap for countries seeking to address illicit trade, it will not resolve the problem of illicit trade alone. Controls will only be effective if matched with strong enforcement and prosecution of offenders (FATF, 2010b). One country's efforts to implement the Protocol could be undercut without international collaboration, which is essential to tackling illicit trade, given its transnational nature (INTERPOL, 2014a). Illicit trade is a global phenomenon, which calls for global solutions. One of the most important tools of law enforcement is information exchange and international co-operation.

The FCTC is not the only international treaty that governments can utilise to combat illicit tobacco. Two significant treaties are the UNTOC and UNCAC. Unlike the Protocol, UNTOC and UNCAC are in force and have been ratified by 185 and 176 states respectively, and represent indispensable legal frameworks for current global efforts.[25]

The value of UNTOC and UNCAC in combating illicit tobacco lies in the fact that, while these two treaties were not specifically conceived to address this phenomenon, they tackle its key facilitators, namely: the need for organised criminal groups to plan their activities and their roles in the illegal supply chain (through conspiracies, criminal associations, etc.) and the need they have to resort to corruption practices as an almost unavoidable type of crime to ensure that goods (whether fake or authentic) are manufactured and distributed. Moreover, these treaties also address other crimes often associated with or linked to the illicit trade in tobacco products.

In addition to including facilitators in their scope of application, UNTOC and UNCAC tackle the conditions that make the illicit trade in tobacco products profitable. Both treaties set forth a globally applicable legal framework for, among other things, the criminalisation of the "laundering of proceeds of crime" and the freezing and confiscation of criminal assets. This latter measure is expected to be implemented across borders upon the request of foreign countries.

To ensure that those two treaties become effective tools against the illicit trade in tobacco products, the following considerations could be made:

A number of States parties have not yet take action to fully implement them. It will be important to act through relevant technical assistance organisations (notably UNODC, which have developed several model laws and legal assistance programs) to continue to support States' effort in this direction. The fact that country implementation is "checked" at the international level by two Conferences of Parties (COPs) facilitates efforts aimed at encouraging further efforts in this direction. As a minimum, the two COPs and their various working groups set up thereby should ensure that the attention of the international community remains focused on those two instruments in the years to come. In the context

of UNCAC, the inter-governmental peer-review mechanism established in 2009 to monitor treaty implementation is advancing and constitutes an important platform for dialogue, the exchange of recommendations and good practices;

The possibility of using UNTOC and UNCAC as concrete legal bases for international co-operation against the illicit tobacco trade is largely unknown or unexplored. Awareness-raising campaigns could be launched in this respect among criminal justice officers. INTERPOL's Office of Legal Affairs has been promoting this approach since 2013, through the organisation of training seminars, legal guides and international dialogues across regions.

International Convention for the Suppression of the Financing of Terrorism (Terrorist Financing Convention)

While the Terrorist Financing Convention is not an obvious choice when practitioners seek to identify international legal bases to be employed against illicit tobacco, it could turn out to be useful in circumstances where illicit trade practices are linked to the commission of terrorist acts.

In particular, the international co-operation measures contained in the Terrorist Financing Convention apply to situations where natural or legal persons provide or collect funds with the intention that they should be used or in the knowledge that they are to be used, in full or in part, in order to carry out [an act of terrorism as defined in the Convention itself with reference, also, to a number of existing counter-terrorism treaties]" (Art. 2).

Crucially, by including in its scope of application "assets of every kind, whether tangible or intangible, movable or immovable, however acquired […]" (Art 1.1), the definition of "funds" appears broad enough to also include tobacco products. Thus, potentially, the Terrorist Financing Convention could constitute the backbone of international co-operation efforts where the supply of cigarettes ended up supporting terrorist activity, regardless of whether or not a terrorist act is eventually committed.

Where States manage to make the necessary connections between cigarette smuggling and the planning of terrorist acts, this convention could provide an interesting legal basis.

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

The section of TRIPS devoted to criminal enforcement is less developed than the one devoted to civil and administrative enforcement. Still, it offers some relevant elements to guide policy makers in addressing counterfeit cigarettes and tobacco products with requirements and standards contained in other international treaties. For example, TRIPS sets forth a clear-cut obligation for States Parties to apply penal measures (as opposed to simply administrative sanctions) when trademark counterfeiting is committed on a commercial scale. Also, it envisages the seizure, forfeiture and destruction not only of the infringing goods, but also any materials and implements being used. Such materials and implements play a key role in the production of counterfeit tobacco products (Art. 61 TRIPS).

INTERPOL's Legal Handbook on Illicit Trade in Tobacco Products – a Guide for Policy-Makers

This handbook intends to offer the first comprehensive analysis of the international legal framework against illicit tobacco. It provides guidance for policy makers and law enforcement authorities on the effective implementation of key international instruments in this area, with an emphasis on the Tobacco Protocol. It examines the phenomenon in terms of its development over the past few decades, characteristics, forms and legislative and law enforcement responses. The intention is to provide States with guidance and policy recommendations needed to design and implement anti-illicit tobacco policies and strategies from a legal and institutional perspective.

The appendices contain some practical tools, including a country assessment checklist and a table outlining national legislation across various legal areas, including intellectual property, criminal and customs legislation, as well as specific tobacco legislation regarding licensing and marking requirements and the seizure and destruction of illicit goods. The table is designed as a comparative tool for countries to understand how other jurisdictions have treated the same issue.

The full text of the Handbook is currently available in English and Spanish, and can be downloaded from INTERPOL's webpage at: http://www.interpol.int/Crime-areas/Trafficking-in-illicit-goods-and-counterfeiting/Legal-assistance/Legal-publications.

It is planned for the Handbook to become available in Arabic and French towards the end of 2015.

National strategies to tackle illicit trade

Illicit trade in tobacco is a complex criminal phenomenon that undermines countries' fiscal, security/governance, health and economic/regulatory policies:

- **Fiscal:** Deprives governments of tax revenue
- **Security/governance:** Promotes criminality and corruption
- **Health:** Affects consumer health and health care provision
- **Economic/regulatory:** Undercuts the legitimate marketplace and regulatory regimes governing the legitimate industry (FATF, 2010b).

These negative impacts extend far beyond the remit of any single government ministry or agency. As a consequence, governments must ensure that all relevant agencies are aligned around the same objectives and contribute to the fight against illicit trade, in order to address the issue in a comprehensive way (Allen, 2013). In addition to relevant agencies, governments should also involve the private sector and other affected stakeholders in these efforts, to benefit from their expertise and capabilities.[26] Strong political will to tackle illicit trade is also an essential component in any comprehensive approach (Allen, 2013).

A number of countries worldwide have developed whole-of-government approaches to fighting illicit trade in tobacco products. These aim to address the problem in a broad and concerted way, including consultation with affected stakeholders. These national strategies, action plans and/or task forces often seek to bring together relevant agencies

and stakeholders, outline a comprehensive set of enforcement and policy measures and co-ordinate anti-illicit trade efforts between various agencies.

European Union

The European Commission (EC) announced a bloc-wide strategy and action plan to fight illicit trade in tobacco products in June 2013. The strategy aimed for a "comprehensive approach," recognising that "the fight against the illicit trade is a cross-cutting issue that is affected by many factors and drivers and in turn involves a broad range of EU and/or national policies" (European Commission, 2013a). The EC's strategy and action plan called for co-ordinated action by a wide range of national and EU agencies, in order to adopt and enforce measures to decrease incentives, secure the supply chain, address challenges of EU enforcement authorities, enhance co-operation with major source and transit countries and strengthen sanctions (European Commission, 2013b). The strategy also endorsed the creation of co-ordinating bodies to enhance law enforcement co-operation, noting that "the creation of designated task forces, embracing customs and finance guards, police as well as any other law enforcement agency, has proven to be successful" (European Commission, 2013a).

Turkey

Turkey adopted an Action Plan to Combat Smuggling of Tobacco and Tobacco Products (2011- 2013) in October 2011. The Action Plan aimed to co-ordinate the efforts of the Ministries of Justice, Foreign Affairs, Economy, Customs and Trade, Interior, Finance, Education, Health and Transport, as well as the Land Forces Command, Tobacco and Alcohol Market Regulatory Authority and Revenue Administration. The Action Plan listed the overarching objectives and assigned specific actions and deadlines to various agencies (European Commission, 2013b). Underscoring the high-level political commitment attached to the issue, meetings to discuss the Action Plan were chaired by Turkey's deputy prime minister for the Economy (Donmez, 2011).

United Kingdom

The United Kingdom has had a national strategy to combat illicit trade since its first Tackling Tobacco Smuggling Strategy was introduced in 2000 by Her Majesty's Revenue and Customs (HMRC). This strategy has been renewed periodically to adjust to the changing threat environment and build on progress. Commenting on the strategy's all-encompassing approach in the 2011 update, HMRC and the UK Border Agency noted that "the renewed strategy is comprehensive, seeking to combine policy and legislative changes, enforcement, collaborative working with stakeholders to address the source, supply and demand for illicit tobacco in the United Kingdom" (HMRC and UK Border Agency, 2011). The strategy reaffirmed the agencies' commitment to "work with the Department of Health, Trading Standards, Police and other national, regional and local partners to develop joined-up approaches to tackling illicit activity" and European and international governments. In addition to working with public health stakeholders and academics, the strategy also called for the creation of a new anti-illicit joint working group with UK tobacco manufacturers (HMRC, 2011). The March 2015 iteration, Tackling Illicit Tobacco: From Leaf to Light, sets out how HMRC and UK Border Force will continue to target, catch and punish those in the illicit tobacco trade, and describes the aims of creating a hostile environment for tobacco fraud through intelligence sharing

and policy change, and changing perceptions by raising public awareness of the links between illicit tobacco and organised criminality (HMRC, 2015a).

Australia

Australia has established a Tobacco Stakeholder Group to discuss issues of mutual concern in the tobacco industry, including efforts to combat illicit trade. Chaired by an official in the Australian Taxation Office, it also includes officials from the Customs and Border Protection Service, Quarantine and Inspection Service, Department of Health and Ageing and representatives from the major local tobacco companies (Australian Taxation Office, 2015). Participants have used this platform to discuss ongoing government enforcement efforts to combat illicit trade, new policy initiatives (e.g. FCTC Protocol on Illicit Trade) and to share intelligence (Australian Taxation Office 2014).

Box 5.6. The US collaborative effort to combat the illicit trade in tobacco products

Combating illicit trade in tobacco products requires a collaborative approach drawing on the knowledge and expertise of numerous government agencies, as well as foreign partners. Realising this, the United States Government (USG) created an Interagency Working Group (IWG) in 2014. The IWG consists of agencies within the five departments that have a role in combating illicit tobacco: Treasury, State, Justice, Homeland Security and Health and Human Services. Representatives from these departments provide expertise in the areas of law enforcement, policy, regulation, law, research, and tax administration.

The IWG meets quarterly to facilitate a closer working relationship with not only the partners within the IWG but also international partners. One goal of the IWG is to enhance information- sharing capabilities for future targeted enforcement actions, as well as to learn about the threats related to smuggling illicit tobacco into the United States and best practices to combat illicit tobacco. The IWG will allow a more unified US government course of action to mitigate the importation of illegal cigarettes into the United States.

Experts from the following agencies are involved in the IWG:

- Department of State
  - International Narcotics and Law Enforcement Affairs' Anti-Crimes Office
  - International Organization/ Economic and Development Affairs (Monitors the WHO FCTC)
  - Diplomatic Security
- Department of Justice
  - Federal Bureau of Investigation (FBI)
  - Bureau of Alcohol Tobacco Firearms and Explosives (ATF)
- Department of Homeland Security
  - Homeland Security Investigations (ICE/HSI)
  - Customs and Border Patrol (CBP)
- Department of Treasury
  - Alcohol and Tobacco Tax and Trade Bureau (TTB)
  - Internal Revenue Service - Criminal Investigation (IRS-CI)
- Department of Health and Human Services
  - Food and Drug Administration – Office of Criminal Investigation (FDA-OCI)
  - HHS Office of Global Affairs
  - Food and Drug Administration (FDA) Center for Tobacco Products

Source: Authors

Industry initiatives

Legitimate manufacturers and suppliers of tobacco products are both affected by the illegal trade of tobacco products. In addition to lost revenues, the illegal trade of tobacco distorts competition in the market and undermines investments in innovation, distribution, brand equity and legal employment (Allen, 2013). Accordingly, the tobacco industry, and in particular some of the largest firms, have various internal programmes, partner-programmes and participate in various initiatives that address curbing the illicit market.

The EU has signed legally binding agreements with four companies to address contraband and counterfeit cigarettes. The agreements were signed between 2004 and 2010 and have a two-pronged approach. The first piece is that the four companies, collectively, pay the participating countries and the EU EUR 2.15 billion. The second piece concerns controlling their products and ensuring that their products are not diverted into the black market. The agreements require the tobacco companies to "supplying only those quantities required by the legitimate market; taking care that they sell to legitimate clients only; [and] implementing a tracking system to help law enforcement authorities if cigarettes are traded illegally" (OLAF, 2015).

Several legitimate manufacturers also maintain various informational and resource-driven webpages and provide assistance to law enforcement. Webpages are geared toward the general public, dissemination of their corporate responsibility or serve as resources for law enforcement.[27] Tobacco companies also participate in law enforcement trainings focused on illicit tobacco, such as a recent one offered to local, state and federal law enforcement officers in the United States and offered by the National White Collar Crime Center.[28]

Tobacco companies have also engaged in capacity building and assistance, such as providing sniffer dogs trained to detect tobacco products to law enforcement.[29] Additionally, industry regularly provides support to law enforcement in a number of jurisdictions, and one company has signed memoranda of understanding with more than 30 countries. In general, the areas of co-operation include information development and sharing, provision of expert evidence and counterfeit recognition trainings to enforcement authorities. In Europe and Canada, one of the largest global manufacturers has entered into formal co-operation agreements that identify best practices and set up a framework for the specific manufacturer and governments to work together to fight the proliferation of illegal tobacco (JTI, 2012). In 2014 alone, one company supplied information that led to the seizure of roughly 1 billion illegal cigarettes, the arrests of many individuals from organised crime groups and the dismantling of illegal factories (JTI, 2015).[30]

Another global manufacturer, which also has agreements with the EU, participates in similar initiatives to counter the illicit trade in tobacco products and engages in supply chain management and know-your-customer requirements. Its Illicit Trade Strategies and Prevention team's goal is to enhance the understanding of this problem and develop strategies and partnerships to combat the illicit trade in tobacco products. The company has memoranda of understanding with 20 countries, has trained more than 11 000 law enforcement officials and supports public awareness campaigns in 15 countries (Phillip Morris International, 2015).[31]

Industry supports independent research on the illicit trade in tobacco products and cigarette smuggling to inform the policy debate. Representatives also participate in international fora to enhance international co-operation. At least one of the manufacturers

makes significant annual investments in research that attempts to identify the volume and the flows of illicit tobacco. This research is used to help law enforcement block these channels and to help their business in identifying high-risk markets.

According to one tobacco manufacturer, its top anti-illegal trade priority is to prevent criminals and organised crime gangs from diverting its genuine products from the legitimate supply chain (JTI 2015).[32] It has a number of compliance programmes aimed at achieving this objective. For example, their "Know your customer" policy ensures that it is selling products only to reputable customers who are not involved in the diversion of its products into the illegal trade. Its "Know your supplier" programme is aimed at ensuring that their suppliers are not engaged in providing materials, machinery or services to illegal trade operators.[33] This company and the three other manufacturers that have agreements with the EU also have "Know your customer" policies in place, a requirement of their respective agreements.

In addition to the "Know your customer" policies, manufacturers have several initiatives aimed at combating illicit trade. One global manufacturer has been implementing track-and-trace technology on its products at the master case, carton and pack level, to assist in determining the point at which tobacco products have been diverted from their intended route and into illicit channels. By the end of 2015, it will reach 90% coverage capacity of this technology in its world-wide cigarette production. It also has a seizure investigation programme to identify from where genuine products were diverted into the illegal trade and by whom. This programme protects and its customers from conducting business with those involved in the illegal trade. The seizure investigations programme is run at a forensic level, ensuring that the evidential findings of these investigations can be shared and used by partners in law enforcement around the world, including international agencies such as OLAF and Interpol. In addition, the global manufacturer has comprehensive security programmes that specifically lower the risk of product theft during transport, thereby reducing the likelihood of genuine stolen product entering into the illegal market (JTI, 2015).[34] Finally, its compliance team includes an anti-money-laundering policy and programme that is designed to mitigate the risk of having its products used as instruments in the financial systems of money launderers (JTI, 2012).

Another global manufacturer stated that it supports strict regulations and enforcement measures to prevent all forms of illicit trade in tobacco products, including tracking and tracing, labelling, record-keeping requirements and where appropriate, and implementation of strict licensing systems. The company also implemented strong controls in its supply chain, such as track and trace, volume monitoring and customer due diligence procedures. These measures have not only yielded tangible results, but have become the industry standard. For example, between 2006 and 2014, the volume of diverted products belonging to this company that were seized in the EU has dropped by 85% (Georgieva, n.d.).[35] Reportedly, the company has invested over USD 150 million to implement a state-of-the-art tracking and tracing solution to secure its supply chain. With this technology, it has tracked the movement of more than 500 million master cases of its products in over 120 countries, and rolled out technology that enables the verification of the authenticity of individual packs in more than 90 countries. It has also established the Fiscal Compliance Program (FCP), designed to ensure that it does business only with responsible organisations and individuals who share its commitment to comply with relevant fiscal and trading laws (The Business Action to Stop Counterfeiting and Piracy, 2015).

Additional recommendations for anti-illicit trade initiatives

In addition to multilateral efforts by the international community, individual countries and industry, there are some additional measures that governments could consider when they are creating a strategy to counter the illicit trade in tobacco products. Ideally, strategies will address numerous components of the illicit trade in tobacco and attempt to increase the effectiveness of governance, reduce the ability for individuals to engage in smuggling activities or the consumption of illicit products, and decrease the ease in which illicit actors can exploit the tobacco market and its products. Some preliminary suggestions include capacity building (in particular, programmes and activities aimed at increasing the abilities of law enforcement, border security and prosecutors); increasing the quality, reliability and validity of data concerning illicit tobacco; public awareness and educational campaigns on the threats and harms of illicit tobacco; public awareness and educational campaigns on demand reduction; and supply chain management. Governments may also want to examine the punishments associated with cigarette smuggling and the trade in illicit tobacco, to see if the certainty of punishment and the severity of that punishment correspond with the true harms caused by the criminal activity.

There are numerous ways that governments can improve the effectiveness and abilities of their regulatory and criminal justice systems to decrease illicit tobacco within their jurisdictions.

- Increase the training and awareness of harms and consequences relating to the illicit trade in tobacco products for law enforcement, prosecutors, judges and policy makers. The training needs to be specialised for each type of government official. For law enforcement and customs officials, it would be helpful to develop training that allows the officer to better understand the potential revenues, the weaknesses in the tobacco supply chain, how to access and use the World Customs Organization's and similar organisations' tools to identify trends and exchange information, and how to better utilise intelligence and risk analysis.

  Along those lines, specialised trainings should also be developed for the intelligence analysts who assist law enforcement and national security advisors, so they can collect better data, detect trends and analyse the data more efficiently.

  For excise control officials, it might be helpful to develop training that allows them to become familiar with the manufacturing process, potential revenue weaknesses, and use credibility techniques, together with audit and physical controls of manufacturing.

  Finally, for consumer protection/quality control officials, trainings should focus on identifying illegal products at the retail stage and working with enforcement officials to identify and disrupt distribution chains.

- In addition to training, policy makers and administrators need to increase their political and financial support for law enforcement and prosecutorial efforts relating to countering the illicit trade in tobacco products. This includes the financial aspects of the illicit trade (i.e. money laundering, trade-based money laundering, wire transfers and tracing back the money). Once the case is brought to court and the defendants are found guilty, the punishments need to fit the true harms and costs of the illicit trade in tobacco products. Recommended

punishments, and laws relating to punishment, may need to be reviewed and updated. Finally, to assist in these efforts and acknowledge the international aspects of the illicit trade, governments may also wish to review and update their internal information-sharing agreements, as well as their multilateral and bilateral agreements concerning law enforcement, taxation, intelligence and any other information needed to combat cross-border/transnational illicit tobacco.

- Governments can implement policies and programmes that decrease demand for the illicit products through public awareness and educational campaigns and programing. Governments may wish to involve several ministries or departments, such as Health, Justice and Education. To educate young people, governments may wish to develop age-appropriate, schools programmes so that youths are aware that by purchasing illegal goods, they are funding large- scale criminal organisations and terrorists. They should be informed that in doing so, they are depriving governments of taxes that pay for services, and increasing the health risks, because the products may not meet health regulations. For non-school age programmes, governments may wish to fund demand-reduction campaigns focused on how the illicit trade in tobacco products funds organised crime and terror groups, facilitates corruption, increases interdiction and law enforcement costs and reduces tax collection – taxes needed to pay for other programmes and services. Governments may consider using popular media programmes to feature storylines about smugglers enticing young people into purchasing illegal tobacco products, or the dark side of cigarette smuggling.

  To reiterate, governments may wish to enact public awareness campaigns and training programmes geared toward criminal justice personnel, such as law enforcement, prosecutors, judges and policy makers. In addition to the law enforcement suggestions above, governments may also wish to provide the judiciary, including magistrates, with an awareness training module and guidance that can form part of their continuous professional development materials.

- Governments may want to consider "whole-of-government" approaches to countering the illicit trade in tobacco products. As briefly illustrated above, there are numerous causes and facilitators of this complex illicit trade. Therefore, governments may wish to develop tasks forces or other dedicated teams of individuals who not only have an expertise in countering illicit tobacco but also the various components need to effectively counter the illicit trade, such as experts in taxation, health regulations, intellectual property, customs, diplomatic efforts, counter-terrorism, transnational organised crime, postal systems and inspectors, prosecutors and traditional law enforcement personnel.

- Governments should consider increasing the quality and quantity of data concerning the illicit trade in tobacco products. To increase the validity and reliability of the data, governments may want to review their collection procedures, coding systems for criminal cases and to use a mixed-methods approach when calculating their illicit markets. Prosecuting illicit tobacco crimes as "illicit tobacco crimes," and then including those cases in the official arrest, prosecution and punishment statistics, would help increase the quality and quantity of data. Also, to encourage countries to collect statistics relating to the illicit trade in tobacco products, tobacco seizures should be included in the UN Surveys on Crime Trends and the Operations of Criminal Justice Systems survey.

- Implementing supply chain management policies, including know-your-customer policies on acetate tow and other necessities for cigarette production, could decrease the illicit market and detect oversupplying trends and behaviours. In many instances, the excess cigarettes are smuggled internationally. To date, the measures that have been taken by the acetate tow industry (e.g. know-your-customer procedures), have had limited success in deterring the supply of acetate tow to the illicit tobacco trade. On this premise, governments and other members of the international regulatory and enforcement community could significantly reduce the illicit tobacco trade by persuading or requiring acetate tow suppliers to better control their supply chain. Specifically, suppliers of acetate tow and other key inputs should institute or strengthen internal processes that ensure that they only supply in quantities that are commensurate with demand for legal tobacco products in a specific market. Implementing and following know-your-customer and know-your-market policies, and reporting and record-keeping requirements, are some steps that manufacturers could take to reduce the illegal manufacturing of cigarettes. These standards are commonplace in many industries (including banking), as a means to prevent illicit activities.

  The supply of illicit cigarettes could be reduced if suppliers of acetate tow and other key inputs institute or strengthen internal processes that ensure that they only supply in quantities that are commensurate with demand for legal tobacco products in a specific market. In order to secure the supply chain, manufacturers and the international community should create and then follow know-your-customer and know-your-market policies and applicable reporting and record-keeping requirements. These standards are commonplace in many industries (including banking) as a means to prevent illicit activities; the acetate tow manufactures and manufacturers of the other components involved in the production of tobacco products should work toward these best practices.

- Utilising the unique opportunities associated with public private partnerships (PPP) to share information and collaborate on strategies to counter the illicit trade may be of value to governments. In 2008, the OECD defined a public-private partnership as "an agreement between the government and one or more private partners according to which the private partners deliver the service in such a manner that the service delivery objectives of the government are aligned with the profit objectives of the private partners, and where the effectiveness of the alignment depends on a sufficient transfer of risk to the private partners" (OECD, 2008).

  The purpose of a PPP is to facilitate collaboration against a discrete problem set among entities. A PPP may range in focus from the strategic to the tactical, such as a strategic infrastructure that facilitates information sharing and collaboration. At the operational and tactical levels, PPPs are ephemeral and amorphous. Loose coalitions often form around regional problems. Tactical partnerships are even less structured and may only represent one-way information shared between the tobacco industry and law enforcement. Governments have the responsibility to enforce laws, change policy or otherwise act against the problem set. Industry, however, which has no authority to enforce illicit trade laws or change policy, is often the first to identify the problem and subsequently provide information in support of the solution. Industry can and does develop leads, and provides the information to governments. These leads may result in an arrest, seizure,

sanctions or other actions. While government may be prohibited from sharing information regarding an ongoing investigation, it may be able to confirm the utility of information shared by industry, indicating that action has been taken.

The public and policy makers remain largely unaware of the limitations of the best enforcement agencies in the world in tackling this illegal trade, with an average seizure rate in the EU, in 2011, of under 10%. More than 95% of cargo world wide is not scanned and, in Europe, only about 2% of all container traffic is physically examined (Allen, 2013). Whilst enforcement can always be improved, and many agencies do an outstanding job, as long as the profits for criminals and demand for cheap illegal products remain high, the criminals and terrorists will continue to operate in this field. comprehensive cross-government and stakeholder strategy covering all enforcement stakeholders, to tackle supply and covering all health, education and consumer protection administrations to tackle demand appears to have the best chance of success in reducing illegal trade in tobacco products.

Conclusion

Strengthening public policies to counter illicit trade in tobacco products, whether at the source, in transit, or in destination markets is a key component of improving regulatory compliance, peaceful and prosperous communities and public governance. As briefly described in this chapter, the illicit trade in tobacco products involves a combination of many factors, some of which cannot be easily quantified or measured. Nevertheless, the harms caused by this illicit trade can be substantial, and the illicit actors vary from small-scale smugglers to large-scale criminal operations funding serious organised crime and terrorism. To counter the illicit trade in tobacco products, governments should consider in their crime strategies developing a multi-method approach, including: building partnerships, increasing data validity and reliability, launching educational and public awareness campaigns, increasing capacity building efforts, and prioritising countering illicit tobacco products and its associated crimes.

Notes

[1] http://www.fda.gov/TobaccoProducts/ResourcesforYou/ucm335294.htm; Broadly, all tobacco products can be split in two large groups: smoking and non-smoking. A smokeless tobacco product is a tobacco product that does not involve a combustion process. Tobacco products for smoking mean tobacco products other than a smokeless tobacco product, and include cigarettes, cigars, cigarillos, roll-your-own tobacco and pipe tobacco. Chewing or nasal tobacco, tobacco for oral use such as snuff and water-pipe tobacco are smokeless tobacco products. There is also a developing market of novel products that contain tobacco but do not fall into any of the traditional categories. Article 2. Directive 2014/40/EU of the European Parliament and of the Council of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC: http://ec.europa.eu/health/tobacco/docs/dir_201440_en.pdf

[2] Projections of tobacco production, consumption and trade to the year 2010. Food and Agriculture Organization of the UN. Rome, 2003. http://www.fao.org/docrep/006/y4956e/y4956e04.htm. Other smoking tobacco (roll-your-own tobacco and pipe tobacco) is mainly consumed in Middle East/Africa, Western Europe and North America, with Belgium and Netherlands being the countries with highest (over 40%) proportion of cigarette equivalent sales. Smokeless tobacco has significant a share of consumption in the regions like Scandinavia, South Asia (including India, which is the world's largest smokeless tobacco market), or other countries like Sudan, Madagascar or Turkmenistan. The size of the smokeless tobacco market in high-income countries remains relatively stable. http://www.tobaccoatlas.org/topic/smokeless-tobacco/.

[3] The other two components are the acetate tow filter and cigarette paper.

[4] There are two major types of tobacco blends. Blended cigarettes use a mixture of Virginia, Burley and oriental tobaccos. This type is very popular in the US, most of Europe, Latin America and many Asian countries. Virginia cigarettes are primarily composed of Virginia tobacco, but sometimes contain small amounts of other tobaccos as well. This type is popular in most of the British Commonwealth countries and China. Euromonitor reports that more than half of cigarettes sold in 2013 are Virginia blend, with the rest being American Blend (40%) and other blends.

[5] According to the World Health Organization (WHO) one in every ten cigarettes and many other tobacco products consumed in the world are illegal, see http://www.who.int/fctc/mediacentre/news/2015/wntd2015/en/. p. 2.

[6] The estimate was based on their 80-country sample, which represents approximately 90% of the world-wide market. Euromonitor International. Global Tobacco: Key Findings Part 1 - Cigarettes - the ongoing quest for value. July 2015, p. 25.

[7] They attempted to measure the worldwide market using three different methods and econometric models, mostly involving import and export records as well as population estimates and other independent variables. Merriman, et al. caution that their methods and data can be problematic, such as not including smuggled cigarettes that do not cross international borders or only capturing bootlegging and not wholescale smuggling. Merriman, et. al. (2000).

[8] There are many formats of cigarettes sold worldwide. They can be categorised by tar content, cigarette length and thickness, type of filter, pack format, number of cigarettes in pack, presence of menthol, etc. The vast majority of cigarettes is sold in packs of 20 sticks, however, consumer packaging of less or more than 20 sticks is also widespread. According to Euromonitor, 90% of cigarettes are sold in the 20-stick format, followed by 10s (which covers almost all the Indian market), 16s and 19s. According to the recently approved EU TPDII, as of May 2017 all packs of cigarettes sold in European Union should contain at least 20 sticks.

[9] Please see the following studies for specific information on their findings, Chernick, H., and Merriman, D. (2013). Using littered pack data to estimate cigarette tax avoidance in NYC. National Tax Journal, 66, 635-668.; Kurti, M., von Lampe, K., and Thompkins, D. (2012). The illegal cigarette market in a socioeconomically deprived inner-city area: The case of the South Bronx. Tobacco Control, 23, i13-i22.; Davis, K., Grimshaw, V., Merriman, D., Farrell, M., Chernick, H., Coady, M., Campbell, K., Kansagra, S. (2013). Cigarette trafficking in five northeastern US cities. Tobacco Control, 0, 1-7.; Merriman, D. (2010). The micro-geography of tax avoidance: Evidence from littered cigarette packs in Chicago. American Economic Journal: Economic Policy, 2(2), 61-84.; Wilson, N., Thomson, G., Edwards, R., and Pearce, J. (2009). Estimating missed government tax revenue from foreign tobacco: Survey of discarded cigarette packs. Tobacco Control, 18,416-418.

[10] For a general discussion of their methodology, please visit http://www.euromonitor.com/research-methodology.

[11] For specific information on each country's estimate, please see the footnotes within the Tobacco Atlas, available at http://www.tobaccoatlas.org/.

[12] For a more comprehensive discussion on KRMG's research methodology, please see the "Methodology" section of the Project Sun report, "A Study of the Illicit Cigarette Market in the European Union:

2013 Results," KPMG LLP, London, available at www.pmi.com/eng/media_center/media_kit/documents/sun%20report%202013.pdf.

[13] Native American Reservations, located within the United States, have certain sovereign rights. Taxes, especially state imposed taxes, are not collected on Native American Reservations. Lovenheim, M. F. (2008). How far to the border?: The extent and impact of cross-border casual cigarette smuggling. National Tax Journal, 61(1), 7-33. (p. 31).

[14] Beare, M. (2002). Organized corporate criminality - Tobacco smuggling between Canada and the US. Crime, Law & Social Change, 37, 225-243.; Joossens, L., & Raw, M. (2008). Progress in combating cigarette smuggling: controlling the supply chain. Tobacco Control, 17(6), 399-404. van Duyne, P. (2003). Organizing cigarette smuggling and policy making, ending up in smoke. Crime, Law & Social Change, 39(3), 285-317. von Lampe, K. (2005). Explaining the emergence of the cigarette black market in Germany. In P. van Duyne, K. von Lampe, M. van Dijck & J. Newell (Eds.), The organised crime economy: Managing crime markets in Europe, (pp. 209-227). Nijmegen, The Netherlands: Wolf Legal Publishers. Von Lampe, K. (2006). The cigarette black market in Germany and in the United Kingdom. Journal of Financial Crime, 13(2), 235-254.

[15] For more information on the agreements between OLAF and the tobacco companies, as well as copies of the agreements, please visit http://ec.europa.eu/anti_fraud/investigations/eu-revenue/cigarette_smuggling_en.htm.

[16] NAS Report, p 41.

[17] NAS Report.

[18] Eastman is one of the companies that produces acetate tow. It lists the various uses here: http://www.eastman.com/Brands/Eastman_Estron_Tow/Pages/Overview.aspx.

[19] NAS Report, p. 41

[20] NAS Report, p. 41

[21] NAS Report, p. 114

[22] For the history of cigarette smuggling across Turkey's borders see Gingeras, Ryan (2014) Heroin, Organised Crime, and the Making of Modern Turkey. Oxford University Press: New York.. For involvement of Italian organised crime in illicit trade of cigarettes see Paoli, Letizia (2003). Mafia Brotherhood: Organized Crime Italian Style. New York: Oxford University Press.

[23] For a more detailed discussion, please see the chapter on cigarettes within the UNODC's report, pp. 27-32.

[24] Article 4.1(b) of the Protocol notes that Parties shall "take any measures in accordance with their national law to increase the effectiveness of their competent authorities and services, including customs and police responsible for preventing, deterring, detecting, investigating, prosecuting and eliminating all forms of illicit trade in goods covered by this Protocol."

[25] For a list of UNCAC Signatories (140) and Parties (176), please visit https://www.unodc.org/unodc/en/treaties/CAC/signatories.html. For a list of UNTOC Signatories (147) and Parties (185) visit https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-12&chapter=18&lang=en

[26] For instance, the World Health Organization has highlighted the importance of the "active involvement of all relevant stakeholders" as countries adopt and implement the Protocol to Eliminate Illicit Trade in Tobacco Products. (World Health Organization. World No Tobacco Day 2015. www.who.int/campaigns/no-tobacco-day/2015/event/en/

[27] The following are sample of various webpages focused on countering illicit tobacco and supported by industry: British American Tobacco (BAT): http://www.bat.com/group/sites/UK__9D9KCY.nsf/vwPagesWebLive/DO6TNKVW; Japan Tobacco International (JTI) http://www.stopillicittobacco.com/index.htm; Imperial Tobacco, http://www.imperial-tobacco.com/index.asp?page=934; Philip Morris

International (PMI). http://www.pmi.com/eng/tobacco_regulation/illicit_trade/pages/illicit_trade.aspx; www.stopillegalcigarettes.com. Philip Morris USA (PMUSA): https://www.contrabandtobacco.com/; http://www.altria.com/Responsibility/Combating-Illicit-Trade/Pages/default.aspx.

[28] For more information about the training, see https://www.nw3c.org/training/specialty-training/illicit-tobacco.

[29] One such example is from Imperial, available at http://www.imperial-tobacco.com/assets/files/cms/Exane_Illicit_July_1st__FINAL_PDF.pdf; Another example involves Cook County, Illinois (USA)'s Department of Revenue using Philip Morris USA's canines to conduct 71 investigations in 2013. Cook County Government. (2013, December 13). Cook County Partners with Philip Morris's Canine Unit to Combat Illicit Cigarette Trafficking, available at: http://www.cookcountyil.gov/2013/12/13/cook-county-partners-with-philip-morriss-canine-unit-to-combat-illicit-cigarette-trafficking/. In Romania, a tobacco company signed a co-operation agreement with the National Customs Authority. Support included training, sniffer dogs, and equipment. Available at http://www.amosnews.ro/arhiva/jti-doneaza-anv-masini-caini-pentru-combaterea-traficului-ilegal-cu-produse-din-tutun-09-12-2010; http://www.agerpres.ro/ots/2013/08/08/jti-a-semnat-un-protocol-de-co-operare-cu-politia-de-frontiera-16-01-00.

[30] Information provided by JTI, May 2015

[31] Information provided by PMI. May 2015.

[32] Information provided by JTI, May 2015

[33] More information on JTI's "Know your Customer" polices can be found in their agreement with the European Union. The agreements are available at: http://ec.europa.eu/anti_fraud/investigations/eu-revenue/japan_tobacco_2007_en.htm and http://ec.europa.eu/anti_fraud/documents/cigarette_smug/2007/co-operation_agreement.pdf

[34] Information provided by JTI May 2015.

[35] Comment made by Kristalina Georgieva, European Commissioner for International Co-operation, Humanitarian Aid and Crisis Response, at EU Parliament Plenary session, video available at http://www.europarl.europa.eu/ep-live/en/plenary/video?debate=1431970271748.

Annex 5.1: A methodology on measuring illicit trade in tobacco*

* Note: The following material was provided by KPMG for explanatory purposes.

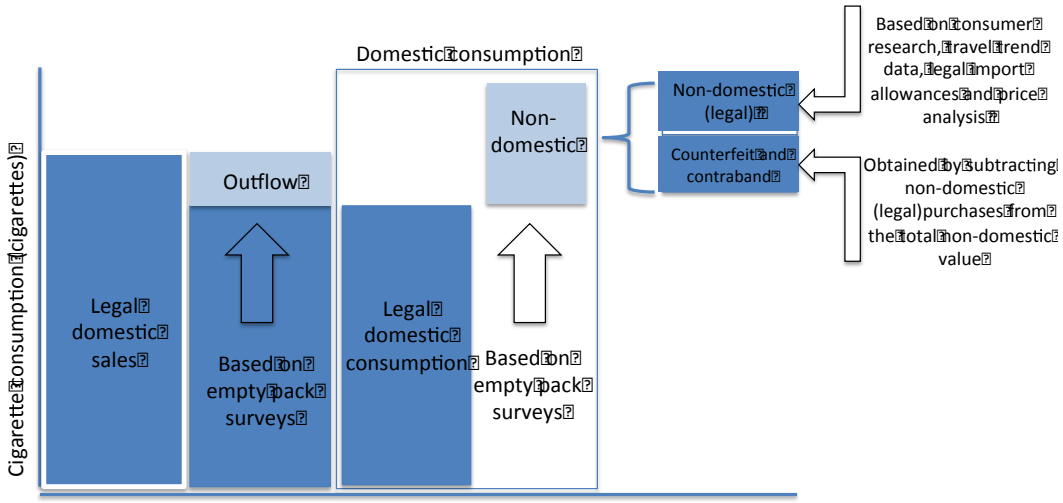
KPMG has produced an annual report on illicit cigarette consumption in the EU since 2006 ('Project STAR'). In 2013 it was renamed 'Project SUN' and was conducted on a pan-industry basis for the first time. Project SUN is a bottom-up analysis of the illicit tobacco trade with the methodology consistently applied since its inception. This is done by undertaking one of the largest consumer markets studies of its type in the world. The inclusion of major tobacco products firms also allowed counterfeit volumes to be identified for all four of the major tobacco manufacturers.

An overview of the Project SUN methodology is shown in Figure 5.3. The project uses an iterative model which takes the legal domestic cigarette sales for all of the EU Member States as a starting point to estimate legal domestic consumption and then uses the results of empty pack surveys (EPSs), again conducted in all of the EU Member States, to estimate the quantum of outflows to other countries and non-domestic inflow volumes. The output of this provides an overall estimate of cigarette consumption in each of the Member States, including both domestic and non-domestic volumes. The non-domestic portion of consumption is then classified as either legal or counterfeit and contraband (C&C), based on the results of analysis using consumer research studies, travel and tourism trend data, smoking incidence data, border sales information and a variety of other data sources.

KPMG's use of both the empty pack surveys and consumer research incorporates two of the three main recommended ways of estimating illicit tobacco trade, as published by the IARC [(2)]. These are firstly observation methods and secondly, large consumer surveys, whilst other data sources such as seizures and smoking prevalence are used as corroborating evidence.

Critiques of the project have centred on the representativeness of the empty pack surveys and on the potential under reporting of the cross-border non-domestic legal trade. Care has to be taken to ensure both of these potential areas of data skew are managed and adjusted for. In addition, the EPSs are expensive to run and therefore only conducted between one (e.g. Denmark, Finland) and three (e.g. France, Italy) times a year. As a result, adjustments have to be made to the EPSs to ensure unusually high readings are not simply seasonal abnormalities.

Figure 5.3. Project SUN (STAR) methodology



Source: KPMG, 2015.

Market type

The selection of the appropriate research method for measuring illicit trade depends largely on the structure and type of tobacco products in the market. Research should therefore be tailored to the industry structure as far as possible. To categorise the market types:

- Pack market: Markets for which both legal and illicit products are largely sold in packs of manufactured cigarettes. These can vary significantly in size from 10 packs (United Kingdom and Italy)[1], to 25 packs (Australia).
- Stick market: Markets where cigarettes are often sold by stick. Packs will also exist but often illicit products will be sold in unbranded bags of sticks. Parts of Asia have these characteristics (such as Papua New Guinea) as do parts of Canada.
- Loose tobacco market: Some markets historically have a significant proportion of loose or hand-rolled tobacco in their legal and illegal industries. Examples include Germany, United Kingdom and Australia.

Research methods

Empty Pack Surveys with Non-Domestic Legal Research

This method is principally appropriate for conventional western pack markets. It does not cover loose tobacco or stick markets.

As a method of measuring illicit tobacco trade for manufactured cigarettes, EPSs are the only market research method that relies purely on physical evidence (avoiding the variability of consumer bias in interview-based methods). Empty pack surveys should be conducted on a consistent basis across all markets in question, allowing for direct

comparison of data and the packs collected form a broad and representative geographic footprint. Their use has a number of significant advantages if the following best practice is followed:

- The volume, sampling method and frequency of pack collections must enable a robust sample
- The sample size and locations collected in each region must be representative of the population within that region, whilst the overall sample must be representative nationally.

In most countries, the domestic EPS results tend to mirror the market shares of the major tobacco manufacturers, suggesting the sampling method results in an accurate representation of the wider market. Where this is not the case a re-weighting exercise should be undertaken.

The measurement of non-domestic legal (ND(L)) purchases must subsequently be determined to remove the legitimate product from the EPSs' calculation of total non-domestic consumption. This can be done through an independent consumer survey. The purpose of the survey should be to measure purchasing habits rather than consumption, in order to avoid the under-reporting typical of consumption surveys and to include any 'gift purchases' from non-smokers. Respondents should be asked about the number of trips made in the year, the destinations and the volume and brands of cigarettes purchased. The surveys are weighted according to gender, age and region to ensure a representative sample of the national population in each country is obtained. Travel statistics should be used to cross check the survey results as well as an analysis of border sales hotspots, where appropriate (e.g. north eastern border of France with Belgium).

Strengths and weaknesses

Empty pack surveys give the highest likelihood of representing a fair estimation of the domestic and non-domestic product being consumed in a market. However great care needs to be taken to ensure the sampling methods are representative of the entire smoking population, not only urban-dwellers and highly populated areas. They remain the only known method to avoid the significant problem of consumer under-reporting [(2)(3)].

Empty pack surveys greatest strength, the fact that they are based only on physical evidence, is also a weakness. The packs themselves cannot give much information about the sources of illicit product or the split between non-domestic legal and illicit [(4)]. This is why they should be used in conjunction with reliable estimates of non-domestic legal product as well as corroborated with Customs' intelligence and other estimates.

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

Typically, the YBS provides a larger sample than an equivalent EPS, whilst collecting from waste disposal centres results in the collection of packs from both household waste and public bins. The YBS is therefore likely to give a more representative result compared to the EPS.

A comparison of the EPS and YBS methodologies was undertaken by KPMG in 2008 and 2009. Four quarterly waves of the EPS were undertaken in 2008, with two further waves in 2009 (Q1 and Q3). Collection was undertaken in 52 cities across Germany. The non-domestic incidence measured by the EPS was only 1.2 percentage points higher in 2008 (21.1% versus 19.9%) and only 0.4 percentage points higher in 2009 (19.7% versus 19.3%) [(5)(6)]. Consequently, we concluded that the EPSs are a reliable measure of non-domestic incidence, with marginal differences likely due to difference in timing of samples, the rural-urban share of the surveys and the total number of packs collected.

Pack swap surveys

Pack swap surveys are particularly useful in markets that contain a significant proportion of sticks or where empty pack surveys are not feasible for other reasons. The pack swap methodology involves collection of current packs or sticks from respondents in return for relevant incentives. Pack swaps can be conducted in retail outlets and other populous locations, and can also be collected from home visits. Care of course needs to be taken to ensure social and geographic samples are representative and that the sample size is large enough.

Strengths and weaknesses

This type of survey can be an excellent way of gaining both physical evidence and consumer feedback. It also enables the research agency to deal with stick products and other tobacco products. However the survey may suffer from under reporting as seen in refusal rates and in the answers to 'frequency of purchase' questions. There is also the potential risk of respondents selectively offering packs for the swap.

Consumer surveys

Evidence of illicit trade is often gathered from straightforward consumer surveys performed either via the web, via telephone contact or via a drop and collect questionnaire. The outputs of these surveys vary considerably. In some cultures survey respondents feel comfortable with sharing information about their illicit consumption; but in others they clearly do not as evidenced by wide disparities between other surveys, Customs' detection rates and reported consumer rates of illicit. Overall, consumer surveys have historically under-reported tobacco consumption, especially in countries where tobacco consumption has become increasingly socially less acceptable. For example, the Australian Institute of Health and Welfare highlight the possibility of under-reporting in their 'National Drug Strategy Household Survey',[7] primarily as some respondents did not answer smoking related questions. In addition, the Australian Bureau of Statistics suggested social pressures likely account for such under-reporting.[8] Illicit tobacco consumption is likely to be under-reported to an even greater degree. However, consumer surveys can be used usefully to corroborate the results of other surveys if the questions are about purchase behaviours rather than only consumption estimates.

Strengths and weaknesses

Consumer surveys have a great deal to add in terms of tracking the consumption behaviours and purchase patterns of illicit consumers. However as an absolute measure of the illicit quantum in any given market they have been found to underreport by up to 25-35%,[9] and should therefore be used as supporting rather than leading evidence.

Mystery shopping

This technique attempts to survey what brands and tobacco product types are available on the open market. Interviewers can either question consumers as they leave retail outlets, or they can act as consumers themselves. Where researchers have to masquerade as consumers, this can be a higher risk type of research. Also care should be taken to select a representative sample of outlets, including informal outlets such as markets. Care should also be taken in establishing times of day and week in which to visit, again to ensure the survey is representative of consumers' own experience.

Strengths and weaknesses

Mystery shopping can provide excellent data on the availability, prices and modality of illicit selling of product. However it cannot produce in itself a representative quantum of the illicit products' consumption in that market. Once again it is a technique that should be conducted in conjunction with others to produce a rounded picture of the illicit consumption in a market.

Rolling papers analysis

This technique is specific to the loose tobacco market. Historically the illicit loose tobacco market is very difficult to research because little evidence exists after the product has been consumed. Therefore most methods for sizing the illicit trade quantum of loose tobacco have tended to rely on consumer interviews only. Rolling papers analysis proposes that a check for this method be produced alongside these surveys. The method analyses the total market for rolling papers and establishes a total potential market for rolling tobacco based on an assumption of tobacco use per paper. Care has to be taken to take account of wastage (papers spoiled), other uses (such as marijuana), and the variability of the amount of tobacco in each rolled cigarette.

Strengths and weaknesses

Whilst the logic is sound for rolling papers analysis, the degree of variability given the factors listed above produces a wide range of potential market sizes. Therefore this method acts only as a 'sense check' for the quantum of illicit loose tobacco.

Customs and other law enforcement detections

Our colleagues in customs and law enforcement produce a rich vein of data from the excellent work they do in detection of criminal activity and enforcement of anti-trafficking and smuggling laws. Often data associated with these detection events are shared publicly and are tracked on an annual basis by the relevant law enforcement organisations. We have found that this data can act as an excellent form of collateral for the market research listed above. However care must be taken to avoid over representing the data as consumption data: these detections can only show a proportion of the illicit market. A problem exists in establishing what proportion these detections represent of the total illicit market. Detections depend as much on the performance of the customs or law enforcement agency as they do on the presence of illicit activity and the ingenuity of the smugglers.

Strengths and weaknesses

Customs and law enforcement data should be used as a form of collateral for the presence and types of illicit product in a market. They should not be used as an estimation of the total quantum of consumption of those products.

Suitability of research methods for different types of market

Table 5.2 below summarises the different research methods for different types of tobacco product markets. These findings are of course subject to significant variability depending on geography, legality, cultural behaviours and other research considerations.

Table 5.2.

	Pack market	Stick market	Loose market
EPS + ND(L)	P		
Pack swap		P	
Consumer Survey	S	S	P
Mystery Shopping	S	S	S
Rolling Papers			S
Customs Data	S	S	S

Note: Key: P = primary source of illicit quantification; S = secondary source of illicit quantification

Notes

[1] Following a European Parliament vote in February 2014, the sale of 10 packs will be banned across the EU by 2016. The minimum pack size in EU countries other than the United Kingdom and Italy is currently 19 / 20 packs.

[2] Warner, Kenneth E., "Possible Increases in the Underreporting of Cigarette Consumption", Journal of the American Statistical Association (1978)

[3] Gallus et al, "Temporal changes of under-reporting of cigarette consumption in population-based studies" (2011)

[4] "Tax avoidance and tax evasion", Chapter 8 - Handbooks of Cancer Prevention, IARC (2011)

[5] Ipsos Yellow Bag Surveys, 2008-2009

[6] Ipsos Empty Pack Surveys, 2008-2009

[7] "National Drug Strategy Household Survey", Australian Institute of Health and Welfare, 2010, 2013

[8] "Profiles of Health, Australia, 2011-13 – Tobacco Smoking", Australian Bureau of Statistics, June 2013

[9] Gallus et al, "Temporal changes of under-reporting of cigarette consumption in population-based studies" (2011)

References

All Party Parliamentary Group on Smoking and Health (2013), *Inquiry in to the illicit trade in tobacco products*, www.ash.org.uk/APPGillicit2013.

Allen, E. (2013), *The illicit trade in tobacco products and how to tackle it*, International Trade and Investment Center (ITIC), Washington, DC, www.iticnet.org/images/AIT/English-FirstEd-TheIllicitTradeinTobaccoProductsandHowtoTackleIt.pdf.

American Cancer Society and World Lung Foundation (2014), *Tobacco atlas: 5th Edition*, http://3pk43x313ggr4cy0lh3tctjh.wpengine.netdna-cdn.com/wp-content/uploads/2015/03/TA5_2015_WEB.pdf, p. 47.

Australian Taxation Office (2015), *Tobacco stakeholder group*, www.ato.gov.au/general/consultation/consultation-groups/stakeholder-relationship-and-management-groups/tobacco-stakeholder-group/.

Australian Taxation Office (2014), *Record of tobacco stakeholder meeting*, 23 October 2014, www.ato.gov.au/General/Consultation/In-detail/Stakeholder-relationship-and-management-groups---minutes/Tobacco-Stakeholder-Group/Tobacco-Stakeholder-Group---Meeting-23-October-2014---Minutes/.

BBC News (2012), *Cigarette smugglers who used Dover and Newhaven are sentenced*, www.bbc.com/news/uk-england-19654260.

Beare, M. (2002), "Organized corporate criminality - Tobacco smuggling between Canada and the US", in *Crime, Law & Social Change*, Vol. 37, pp. 225-243.

Billingslea, W. (2004), "Illicit cigarette trafficking and the funding of terrorism", *The Police Chief*, www.policechiefmagazine.org/magazine/index.cfm?fuseaction=print_display&article_id=226&issue_id=22004.

Bittoun, R. (2004), *The medical consequences of smoking 'Chop-Chop' tobacco*, Australian Department of Health, http://www.health.gov.au/internet/main/publishing.nsf/Content/phd-pub-tobacco-chopchop-cnt.htm.

Bouyamourn, A. (2015), "Trade rises at UAE free zones, led by mobiles (inbound) and cigarettes (out)", *The National*, www.thenational.ae/business/economy/trade-rises-at-uae-free-zones-led-by-mobiles-inbound-and-cigarettes-out.

Calderoni, F. (2014), "A new method for estimating the illicit cigarette market at the subnational level and its application to Italy", *Global Crime*, Vol. 15/1-2, pp. 51-76.

Cawley, M. (2013), "Belize free trade zone emerges as cigarette smuggling hub", *Insight Crime*, www.insightcrime.org/news-briefs/belize-free-trade-zone-cigarette-smuggling-hub.

Chernick, H. and D. Merriman (2013), "Using littered pack data to estimate cigarette tax avoidance in NYC", in *National Tax Journal*, Vol. 66, pp. 635-668.

Chiou, L. and E. Muehlegger (2008), "Crossing the line: Direct estimations of cross-border cigarette sales and the effect on tax revenue", in *The B.E. Journal of Economic Analysis & Policy*, Vol. 8/1, pp. 1-39.

Commonwealth of Australia (2012), *Australia national tobacco strategy 2012-2018*, Department of Health and Ageing, Canberra, www.nationaldrugstrategy.gov.au/internet/drugstrategy/publishing.nsf/Content/D4E3727950BDBAE4CA257AE70003730C/$File/National%20Tobacco%20Strategy%202012-2018.pdf.

Communication from the Commission to the council and the European Parliament (2013), Brussels.

Cusack, J. (2013a), "Suez Canal attack by al-Qaida blew Irish cigarette smuggling ring", *Belfast Telegraph*, www.belfasttelegraph.co.uk/news/republic-of-ireland/suez-canal-attack-by-alqaida-blew-irish-cigarette-smuggling-ring-29723681.html.

Cusack, J. (2013b), "Al Qaeda rocket blows lid on IRA cigarette cargo", *Sunday Independent*, www.independent.ie/irish-news/al-qaeda-rocket-blows-lid-on-ira-cigarette-cargo-29596545.html.

Davis, K. et al. (2013), "Cigarette trafficking in five northeastern US cities", in *Tobacco Control*, Vol. 0, http://tobaccocontrol.bmj.com/content/early/2013/12/11/tobaccocontrol-2013-051244 , pp. 1-7.

DHS/ICE (2011), *ICE press release: Mohamad Youssef Hammoud sentenced to 30 years in terrorism financing case*, Department of Homeland Security (DHS) and U.S. Immigration and Customs Enforcement (ICE) www.ice.gov/news/releases/mohamad-youssef-hammoud-sentenced-30-years-terrorism-financing-case.

Donmez, A. (2011), "State adopts new regulations to fight cigarette smuggling", *Today's Zaman*, www.todayszaman.com/national_state-adopts-new-regulations-to-fight-cigarette-smuggling_262230.html.

Douanes et Droits Indirects (n.d.), *2012 Results: Serving the public, protecting French business*, p. 8, www.douane.gouv.fr (accessed 8 September 2015).

Doward, J. (2013), "How cigarette smuggling fuels Africa's Islamist violence", *The Guardian*, www.theguardian.com/world/2013/jan/27/cigarette-smuggling-mokhtar-belmokhtar-terrorism.

Eastman E. (n.d.), "Overview", www.eastman.com/Brands/Eastman_Estron_Tow/Pages/Overview.aspx (accessed 10 September 2015).

Euromonitor International (2015), *Global tobacco: Key findings Part 1 - Cigarettes - the ongoing quest for value*, Euromonitor International, London.

Euromonitor International (2014), *Global tobacco: Key findings part 1 - Tobacco overview, cigarettes and the future*, Euromonitor International, London.

European Commission, (2013a), *Stepping up the fight against cigarette smuggling and other forms of illicit trade in tobacco products – A comprehensive EU* strategy,

European Commission, Brussels, pp.5, http://ec.europa.eu/anti_fraud/documents/2013-cigarette-communication/communication_en.pdf.

European Commission (2013b), *Anti-smuggling action plan*, European Commission, Brussels, http://ec.europa.eu/anti_fraud/documents/2013-cigarette-communication/action_plan_en.pdf.

European Commission (2006), *Anti-Contraband and Anti-Counterfeit Agreement between PMI and the European Community and Member States: twenty-four Member States are now Parties*, EC Press Release No. IP/06/735, European Commission, Brussels, http://europa.eu/rapid/press-release_IP-06-735_en.htm?locale=en.

European Parliament (2014), "Directive 2014/40/EU of the European Parliament and of the Council of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC", *Official Journal of the European Union*, http://ec.europa.eu/health/tobacco/docs/dir_201440_en.pdf.

FAO (2003), *Projections of tobacco production, consumption and trade to the year 2010*, Food and Agriculture Organization of the United Nations, www.fao.org/docrep/006/y4956e/y4956e04.htm.

FATF (2010a), *FATF report money laundering vulnerabilities of free trade zones*, Financial Action Task Force, Paris, http://www.fatf-gafi.org/media/fatf/documents/reports/ML%20vulnerabilities%20of%20Free%20Trade%20Zones.pdf.

FATF (2010b), *FATF Report Illicit Tobacco Trade*, Financial Action Task Force, Paris, http://www.fatf-gafi.org/media/fatf/documents/reports/Illicit%20Tobacco%20Trade.pdf.

Georgieva, K., Comment made by Kristalina Georgieva, European Commissioner for International Cooperation, Humanitarian Aid and Crisis Response, at EU Parliament Plenary session, video available at http://www.europarl.europa.eu/ep-live/en/plenary/video?debate=1431970271748.

Gilmore, A.B. et al. (2013), "Towards a greater understanding of the illicit tobacco trade in Europe: A review of the PMI funded 'Project Star' Report", in *Tobacco Control*. Vol. 0, pp.1–11, http://tobaccocontrol.bmj.com/content/early/2013/12/11/tobaccocontrol-2013-051240.

Gingeras, R. (2014), "Corruption, crime, and scandal in Turkey", *Oxford University Press Blog*, http://blog.oup.com/2014/11/corruption-smuggling-turkey-government.

HMRC (2015a), *Tackling illicit tobacco: From leaf to light: The HMRC and Border Force strategy to tackle tobacco smuggling*, Her Majesty's Revenue and Customs, London, www.gov.uk/government/uploads/system/uploads/attachment_data/file/418732/Tackling_illicit_tobacco_-_From_leaf_to_light__2015_.pdf.

HMRC (2015b), *Control of raw tobacco: Summary of responses*, Her Majesty's Revenue and Customs, London, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/413930/raw-tobacco-summary-of-responses.pdf.

HMRC (2014a), *Control of raw tobacco: Summary of responses*, Her Majesty's Revenue and Customs, London, www.gov.uk/government/uploads/system/uploads/attachment_data/file/364742/141020_Control_of_Raw_Tobacco_v1.0.pdf.

HMRC (2014b), *Measuring tax gaps 2014 edition: Methodological annex*, Her Majesty's Revenue and Customs, HMRC, London, www.gov.uk/government/uploads/system/uploads/attachment_data/file/363966/141016_Methodological_annex_2014.pdf.

HMRC (2011), *Tackling tobacco smuggling– building on our success: A renewed strategy for HM Revenue & Customs and the UK Border Agency*, Her Majesty's Revenue and Customs, London, www.gov.uk/government/uploads/system/uploads/attachment_data/file/398461/Tackling_tobacco_smuggling_-_building_on_our_success.pdf, pp. 8.

International Tobacco Growers' Association (n.d.), "Tobacco types", http://www.tobaccoleaf.org/conteudos/default.asp?ID=18&IDP=5&P=5,

INTERPOL (2014a), *Countering illicit trade in tobacco products: A guide for policy-makers*, INTERPOL, Lyon, www.interpol.int/Crime-areas/Trafficking-in-illicit-goods-and-counterfeiting/Legal-assistance/Legal-publications.

INTERPOL (2014b), *Against organized crime: Interpol trafficking and counterfeiting casebook 2014*, INTERPOL, Lyon, http://www.interpol.int/Media/Files/Crime-areas/Trafficking-in-Illicit-Goods/Against-Organized-Crime-INTERPOL-Trafficking-and-Counterfeiting-Casebook-2014/.

Joossens, L. and M. Raw (2008), "Progress in combating cigarette smuggling: controlling the supply chain", in *Tobacco Control*, Vol. 17, No. 6, pp. 399-404.

JTI (2012), *Anti-illicit trade compliance programs: Fighting contraband*, Japan Tobacco International, Geneva, www.jti.com/files/6913/3777/3625/JTI_AIT_FightingContraband_May_2011.pdf.

KPMG (2015), "KPMG Project Sun. A study of the illicit cigarette market in the European Union, Norway and Switzerland 2014 results", KPMG, London, www.imperial-tobacco.com/assets/files/cms/kpmg_report.pdf.

KPMG (2014), *Project sun report: A Study of the illicit cigarette market in the European Union: 2013 Results*, KPMG LLP, London, www.pmi.com/eng/media_center/media_kit/documents/sun%20report%202013.pdf.

Kurti, M., K. von Lampe and D. Thompkins (2012), "The illegal cigarette market in a socioeconomically deprived inner-city area: The case of the South Bronx", in *Tobacco Control*, Vol. 23/13-i22.

Lacher W. (2012), *Organized crime and conflict in the Sahel-Sahara region*, The Carnegie Endowment for International Peace, http://carnegieendowment.org/files/sahel_sahara.pdf.

LGA (2014), *Toxic fake cigarettes filled with asbestos and excrement seized by councils*, Press Release, Local Government Association, London, www.local.gov.uk/media-releases/-/journal_content/56/10180/6464176/NEWS.

Lovenheim, M.F. (2008), "How far to the border?: The extent and impact of cross-border casual cigarette smuggling", in *National Tax Journal*, Vol. 61/1, pp. 7-33.

MarketLine (2014), *MarketLine industry profile: Global tobacco*, MarketLine, London.

McNeill, A. et al. (2013), "Countering the demand for, and supply of illicit tobacco: An assessment of the 'North of England tackling illicit tobacco for better health' programme", in *Tobacco Control*, pp. 1-7.

Melzer, S. (2010), *Counterfeit and Contraband Cigarette Smuggling: Opportunities, Actors, and Guardianship*, American University, Washington, DC.

Merriman, D. (2010), "The micro-geography of tax avoidance: Evidence from littered cigarette packs in Chicago", in *American Economic Journal: Economic Policy*, Vol. 2, No. 2, pp. 61-84.

Merriman et al. (2000), "How big is the worldwide cigarette-smuggling problem", in Jha, P. and F. Chaloupka (Eds.), *Tobacco control in developing countries*, Oxford University Press, New York, pp.365-392.

OECD (2008), *Public-private partnerships: In pursuit of risk sharing and value for money*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264046733-en, pp. 132.

OLAF (2015), *Cigarette smuggling*, European Commission European Anti-Fraud Office (OLAF), Brussels, http://ec.europa.eu/anti_fraud/investigations/eu-revenue/cigarette_smuggling_en.htm.

Paoli, L. (2003), *Mafia brotherhood: Organized crime Italian style*, Oxford University Press, New York.

Pappas, R.S. et al. (2007), "Cadmium, lead, and thallium in smoke particulate from counterfeit cigarettes compared to authentic U.S. brands", in *Food and Chemical Toxicology*, Vol. 45, pp. 202-209.

Philip Morris International (PMI) (n.d), "About tobacco", www.pmi.com/eng/our_products/pages/about_tobacco.aspx.

Rawley, C. (2014), *Terrorists, tyrants, and tobacco: How the illicit cigarette trade fuels instability in the Middle East*, The Center for International Maritime Security (CIMSEC), http://cimsec.org/terrorists-tyrants-tobacco-illicit-cigarette-trade-fuels-instability-middle-east/12623.

RCMP (2010), *Contraband tobacco enforcement strategy progress report: For the period May 2008 - May 2009*, Royal Canadian Mounted Police, http://www.rcmp-grc.gc.ca/ce-da/tobac-tabac/tobacco-tabac-prog-2008-eng.htm#4e.

Reuter, P. and M. Majmundar (eds.) (2015), *Understanding the U.S. Illicit Tobacco Market: Characteristics, Policy Context, and Lessons from International Experiences*, Committee on the Illicit Tobacco Market: Collection and Analysis of the International Experience, Institute of Medicine, The National Academies Press, Washington DC.

Ross, H. (2015), "Understanding and measuring tax avoidance and evasion: A methodological guide", *Tobacconomics*, http://tobacconomics.org/wp-content/uploads/2015/03/Ross_Methods_to_Measure_Illicit-Trade_03-17-15.pdf.

Shelley, D. et al. (2007), "The $5 man: The underground economic response to a large cigarette tax increase in New York City", in *American Journal of Public Health*, Vol. 97/8, pp. 1483-1488.

Shelley, L. (2014a), *Dirty entanglements: Corruption, crime, and terrorism*, Cambridge University Press, New York.

Shelley, L. (2014b), "Blood money: How ISIS makes bank", *Foreign Affairs*, http://www.foreignaffairs.com/articles/142403/louise-shelley/blood-money.

Shelley, L. (2009), "Illicit trade: A security challenge – a case of cigarette smuggling", International Tax and investment Center (ITIC) Anti-Illicit Tobacco Trade, Brussels Conference Paper, ITIC, Washington DC.

Shelley, L. and S. Melzer (2008), "The nexus of organized crime and terrorism: Two case studies in cigarette smuggling", in *International Journal of Comparative and Applied Criminal Justice*, Vol.32, No. 1, pp. 43-63.

Shen, A., G. Antonopoulos and K. von Lampe (2010), "The dragon breathes smoke: Cigarette counterfeiting in the People's Republic of China", in *British Journal of Criminology*, Vol. 50, No. 2, pp. 239-258.

State of New York Attorney General, (2013a), *A.G. Schneiderman announces new charges after foiled murder-for-hire plot in massive Eastern seaboard cigarette trafficking case*, press release, State of New York, Albany, http://www.ag.ny.gov/press-release/ag-schneiderman-announces-new-charges-after-foiled-murder-hire-plot-massive-eastern.

State of New York Attorney General, (2013b), *A.G. Schneiderman & NYPD Commissioner Kelly announce take down of massive Eastern seaboard unstamped cigarette trafficking enterprise*, press release, State of New York, Albany, http://www.ag.ny.gov/press-release/ag-schneiderman-nypd-commissioner-kelly-announce-take-down-massive-eastern-seaboard.

Stead, M. et al. (2013), "'No-one actually goes to a shop and buys them do they?' attitudes and behaviours regarding illicit tobacco in a multiply disadvantaged community in England", in *Addiction*, Vol. 108/12 pp. 2212-2219.

Swecker, C. (2012), "Testimony of Chris Swecker", *Hearing: Iran, Hezbollah, and the Threat to the Homeland*, Committee on Homeland Security, http://homeland.house.gov/hearing/hearing-iran-hezbollah-and-threat-homeland.

The Business Action to Stop Counterfeiting and Piracy (BASCAP) (2015), *"Role and responsibility of intermediaries: Fighting counterfeiting and piracy in the supply chain*, International Chamber of Commerce Paris, www.iccwbo.org/Advocacy-Codes-and-Rules/BASCAP/International-engagement-and-Advocacy/Roles-and-Responsibilities-of-Intermediaries/, p. 23.

Transcrime (2015), *European outlook on the illicit trade in tobacco products*, Transcrime - Università degli Studi di Trento, http://www.transcrime.it/wp-content/uploads/2015/01/European-Outlook-on-the-ITTP.pdf.

UNODC (2009), *Transnational trafficking and the rule of law in West Africa: A threat assessment*, United Nations Office on Drugs and Crime, Vienna, www.unodc.org/documents/data-and-analysis/Studies/West_Africa_Report_2009.pdf.

von Lampe, K (2006), "The cigarette black market in Germany and in the United Kingdom", in *Journal of Financial Crime*, Vol. 13/2, pp. 235-254.

von Lampe, K. (2005), "Explaining the emergence of the cigarette black market in Germany", in van Duyne, P., K. von Lampe, M. van Dijck and J. Newell (eds.), *The organised crime economy: Managing crime markets in Europe*, Wolf Legal Publishers, Nijmegen, pp. 209-227.

WCO (2014a), *WCO announces the results of its first global operation against illicit trade in tobacco*, World Customs Organization, Brussels, www.wcoomd.org/en/media/newsroom/2014/october/wco-announces-the-results-of-its-first-global-operation-against-illicit-trade-in-tobacco.aspx.

WCO (2014b), *Illicit trade report 2013*, World Customs Organization, Brussels, www.wcoomd.org/en/media/newsroom/2014/june/wco-publishes-the-illicit-trade-report-2013.aspx.

WCO (2014c), *International Convention on the Harmonized Commodity Description and Doing System (1983), Amendments to the Nomenclature, Appended as an Annex to the Convention*, World Customs Organization, Brussels, http://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/hs-nomenclature-2017-edition/~/media/97CAFB37DA7144B488DF7FB83387DC7A.ashx.

WHO (2015a), *Illegal trade of tobacco products: What you should know to stop it*, World Health Organization, Geneva, http://www.who.int/campaigns/no-tobacco-day/2015/brochure/en/.

WHO (2015b), *It ought to be law - 32 more ratifications needed to make the illicit trade Protocol an international law*, World Health Organization, Geneva, www.who.int/fctc/mediacentre/news/2015/wtnd2015/en/.

WHO (2013), *WHO FCTC Protocol to Eliminate Illicit Trade in Tobacco Products (2013)*, World Health Organization, Geneva, http://apps.who.int/iris/bitstream/10665/80873/1/9789241505246_eng.pdf?ua=1.

Willson, K. (2009), *Tobacco Underground: Terrorism and tobacco*, The Center for Public Integrity, www.icij.org/project/tobacco-underground/terrorism-and-tobacco.

Wilson, N. et al. (2009), "Estimating missed government tax revenue from foreign tobacco: Survey of discarded cigarette packs", in *Tobacco Control*, Vol. 18, pp. 416-418.

Wiltshire, S. et al. (2001), "'They're doing people a service' - qualitative study of smoking, smuggling, and social deprivation", in *British Medical Journal*, Vol. 323/7306, BMJ Publishing Group Ltd, London, pp. 203-207.

Chapter 6

The global illicit trade in illegal narcotics

By: Colin P. Clarke, Ph.D.*

Narcotics have long been one of the most valuable illicit markets, and government efforts to stem both their supply and demand face on-going challenges. This chapter describes the global distribution of major illegal narcotics from source to destination with a focus on heroin and cocaine routes. It explains how traffickers seek out states with weak administrative structures, law enforcement and customs as it is less costly to move illegal wares through states that suffer from weak institutions and a significant informal economy. The links to such areas has grown with the spread of globalisation, and collaboration between criminal enterprises to terrorist organisation has become more prominent. The author concludes that State building and enhancement of good governance practices are key complements to punitive approaches and sanctions.

** Carnegie Mellon University, Center for International Relations and Politics*

The opinions expressed and arguments employed in this chapter are those of the author(s) and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

This chapter and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

Globalisation has been a boon for those who seek to profit from illicit trade. It facilitates trafficking and empowers criminal enterprises, enabling criminals and other violent armed groups to share operational knowledge and, in some cases, to collaborate. The vast volume of licit trade allows those trafficking in illegal commodities to create insuperable challenges to state entities trying to track them down (Shelley, 2014).

This chapter describes the characteristics of the global illicit trade in narcotics, presenting estimates of its global volume and value in major sub-classes and discussing the methodological concerns over such estimates. It begins by describing the characteristics of the trade and clearly defining what this sector involves, distinguishing various sub-classes of the trade where appropriate. The major known flows and hubs of illicit trade in these sub-classes are outlined. Second, the chapter outlines the consequences of the illicit trade in illegal narcotics by highlighting the impact of this sector on the budgets of the nation-states that seek to combat it, including the significant costs of funding the security sector, as well as the economic and political repercussions in countries where criminals and criminal networks have co-opted or in some cases penetrated the government.

Overall, this chapter is less concerned with presenting an exact measurement of cultivation, trafficking and consumption of illicit narcotics and more on explaining the choices and motivations of those involved in the trade under specific geographic and economic conditions. In illuminating the variables at play, the aim is to provide governments with insights into how to combat illicit trade more effectively. One goal is to analyse why traffickers transport more products through and to certain countries and the means they employ to facilitate illicit flows. Next, it discusses the consequences and ramifications of the drug trade, including negative externalities and corrosive second- and third order-effects for the environmental, society, and public health. Third, this report provides substantial and compelling evidence of a convergence between the illicit trade in illegal narcotics and other sectors of illicit trade, exploring the ongoing "nexus" debate, or what has labelled "the unholy trinity of transnational crime, corruption and terrorism" (Shelley, 2014). Finally, the report seeks to provide a balanced assessment of existing public policies that have been designed to combat the illicit trade in illegal narcotics on multiple levels – production, transit and consumption – and draws conclusions about how to counter the global illicit trade in illegal narcotics and the organisations that perpetuate and profit from this trade.

Characteristics of the global illicit trade in illegal narcotics

While it is possible to discuss the characteristics of the global illicit trade in illegal narcotics, including the trends associated with the primary actors involved, the types and sub-classes of the various illegal narcotics being smuggled and trafficked, and the flows, routes and hubs that have been identified, it is significantly more difficult to estimate the volume and value of this illicit trade. Statements on the size and growth of transnational organised crime and the impacts of illicit markets and networks are often heard, but rarely supported with reliable statistics and sound measurement when made at the global level. To be sure, no universally accepted figures exist today, although many scholars and practitioners widely agree that the numbers provided by the United Nations Office on Drugs and Crime (UNODC) is the standard. In other words, while this data has

shortcomings, some of which are described below, it is still preferable to national and even regionally aggregated data, because of its global approach.[1]

One anecdote that surfaces in the literature on measuring illicit flows is that of R.T. Naylor confronting a UN anti-drug official about the USD 500 billion figure he had cited in estimating the size of the world illegal drug market (Naylor, 2004). After meeting resistance, the estimate was subsequently lowered to USD 365 billion (based on the survey of different estimates made in different parts of the world) and then rounded up to USD 400 billion (Andreas, 2010). An unpublished study by Peter Reuter, as recounted by Francisco Thoumi, determined that a more appropriate range for the size of the world illegal drug market was between USD 45 billion and USD 280 billion (Thoumi, 2005). Taking the low and the high end of that range suggests that the value of the global illicit trade in illegal narcotics could be anywhere between USD 45 billion and USD 500 billion, a range so broad as to provide little analytic value.

Numerous challenges arise in measuring both the value and volume of the global illicit trade in illegal narcotics, most of which fall into two broad categories: the accessibility and reliability of data and the politicisation of data. These challenges are compounded by the difficulty of developing sound metrics that can objectively inform an empirically based, data-driven policy debate at both the national and international levels. After discussing these challenges at length, this section describes the characteristics of the illicit flow of narcotics and concludes with recommendations for possible workarounds and suggestions for new ways of conceptualising the challenges inherent in measuring the global illicit drug trade.

Reliability of data

While much progress has been made on understanding the character and nature of the illicit trade in illegal narcotics, much work remains to be done. The crossover of references into other disciplines, whilst promising with respect to an attempt to be comprehensive, are too often "unco-ordinated" and "eclectic" to the point of further confusing analysis of this subject (Von Lampe, 2006). According to Andreas and Greenhill (2010), this is partly because we exist and interact in a broader policy arena that demands quantification, which includes the prioritisation of bad data over no data, and favours simple and visible metrics of policy "progress" and "success" that can be highly misleading.

As mentioned above, making accurate quantitative and analytical cross-country comparisons of the drug trade is tricky, and the lack of reliable statistics makes assessment or measurement of it extremely difficult. Accordingly, research on transnational criminal networks and drug trafficking organisations relies in large part on qualitative approaches, for example case studies and other comparative historical approaches. Still, this work comes with its own set of obstacles. "For more qualitatively oriented scholars, such as ethnographers, the poor quality of the aggregate data is much less consequential, but access to interview subjects and other research materials in the illicit world presents its own distinct obstacles and challenges, including potentially finding oneself in risky and even dangerous situations" (Andreas, 2010).

Limitations on access to relevant data and information

The nature of clandestine organisations makes it difficult for researchers to accurately assess their commercial activity. "After all, the success of clandestine border crossings

depends on not being detected and thus they are designed to be as invisible as possible; getting good data is correspondingly difficult, to say the least" (Andreas and Greenhill, 2010).

Quantifying, assessing, evaluating and measuring the value and size of the illicit drug trade and comparing these figures across countries remains a major challenge. While data may be robust for some countries, for others, almost no data is available. This problem is not limited to measuring illicit drugs; accurate quantitative and analytical cross-country comparisons of crime in general is problematic because of the varying (and generally insufficient) national reporting of crime and a divergence between data provided by different sources (Stepanova, 2010). Underdeveloped national criminal justice systems compound these already difficult challenges. Moreover, the weakly functioning states with limited data can often be the same states of interest with regard to narcotics cultivation, processing, trafficking and smuggling. In an ideal world, statistics would draw upon clear and bounded definitions, reasonable measurement and representative samples (Picard, 2013). As the section on methodology suggests, these issues are only a few of the many concerns.

Methodological concerns

Understanding cross-national variation in the illicit flow of narcotics suffers from some of the same pitfalls as studies attempting to measure criminal violence. Noteworthy methodological challenges include a lack of clear priorities for data collection, limitations in the measurement of independent variables, and the design, implementation and assessment of interventions (Messner, 2003). Selection bias is considered a methodological pitfall in many studies on organised violence and illicit markets, since narcotics trafficking is studied most frequently in general but most often for its connection to violence. Within the drug trade, far more attention is devoted to the trafficking of cocaine and heroin than other drugs like marijuana and ecstasy/MDMA (Andreas and Wallman, 2009; Von Lampe, 2009). Without a clear concept and methodology, research on illicit markets can be a casualty of the self-fulfilling prophecies and false assumptions of the researchers who made them (Vander Beken 2004). Another issue is the challenge of conducting the cross-jurisdictional or comparative criminology, since data acquired from one state may be not be sufficient to compare to data collected from another state (see Rawlinson, 1999; and UN Centre for International Crime Prevention, 2000).

Another methodological concern is the multiplicative effect. Estimates of the drug market (whether based on supply or demand) are inherently imprecise, because they are based on multiplying different uncertain quantities, which amplifies the overall uncertainty. On the back end, this requires and is wholly dependent on a series of assumptions that are often flawed or in need of more rigorous testing. Thoumi recounts estimates offered by Rocha on Colombian net cocaine revenues and concludes by noting the necessity of assessing ranges of *possible* versus *most likely* estimates (Thoumi, 2005). The USD 400 billion figure offered by the United Nations would mean that drugs accounted for a larger share of international trade than the markets for iron and steel. The UN figure is distorted because it is based on multiplying global quantity consumed by an approximation of US levels for prices, so the number is an estimate of "turnover" or total retail expenditures, which includes the value added in importing countries. Yet this is not a trade flow estimate (Reuter and Greenfield, 2001).

Most studies on transnational organised crime fall into three means of data collection: observations, interviews and data stored electronically or on paper. In his study on the challenges for future research on transnational organised crime, Von Lampe identified four primary problems plaguing "the emergence of a cumulative body of knowledge and the development of coherent theoretical frameworks," including: the lack of detail on both the *modus operandi* and the logistical structure of the activities; the examination of the destination country but not the source or transit country or countries involved; a dearth of comparisons across time and space (driven in no small measure by problems related to differential access to data sources as well as differences in the *existence* of data to begin with); and finally, a lack of compatibility of research due to differences in the unit of analysis, a lack of agreement about units of analysis, or stark discrepancies in conceptual and theoretical frameworks used to analyse the data being analysed (Von Lampe, 2012).

The lack of reliable data and the use of bad data prevent many researchers from attempting to study illicit trade of all types in the first place. The difficulties plaguing data collection and the analysis of illicit drug markets preclude the type of large sample size quantitative studies popular in political science and sociology academic journals. In turn, many studies on global drug trafficking organisations are qualitative. Alas, there is nothing inherently wrong with moving away from the "quantification fetish" (Andreas, 2010). Richly detailed qualitative studies can be extremely useful in answering questions of how or why (Yin, 1989) and can also help us understand and interpret "the complexity of real-world phenomena" (Stake, 1995).

Politicisation of data and the policy process

In addition to problems with access to data and the myriad methodological concerns outlined above, the data used by many of the actors involved in what has controversially been labelled "the war on drugs" has been politicised. Of course, it is understandable for governments and congressional bodies to want to show progress and a return on investment. "It is unconscionable for this country to continue to carry out a public policy of this magnitude and cost without any way of knowing whether and to what extend it is having the desired effect" (Andreas, 2010). However, too often this leads to the blind acceptance and reproduction of numbers and not enough critique of how certain studies are designed and executed.

While pointing to record numbers of crops destroyed can provide a "politically appealing indicator of 'doing something' about drug production at the source – while at the same time keeping funds flowing to anti-drug agencies," it is also well-known that trafficking numbers and smuggling estimates are "commonly inflated, deflated or simply fabricated, all in the service of political goals" (Andreas and Greenhill, 2010). Reuter has consistently and vehemently denigrated "drug-related 'mythical numbers'" as irrelevant because they have little actual bearing on the policy decision-making process, calling them "decorations" and "rhetorical conveniences" (Reuter, P. and V. Greenfield (2001). Andreas takes some issue with this claim, stating that while it may indeed be true that numbers have little bearing on policy formulation and decision-making, because of the "policy obsession with quantification … the absence of any attention-grabbing numbers would certainly be noticed and missed – and is thus consequential" (Andreas, 2010).

Though it may be useful, if not convenient, to have a gauge to measure progress (or a lack thereof), some argue that at the end of the day estimates and measurements make

little difference, because no matter what the numbers indicate, governments will continue to fight the illicit drug trade. Increased interdiction rates might earn some government agents a promotion or even increased funding. Still, as critics note, even the production of these numbers themselves are often the result of a bureaucratic imperative to produce and claim credit for progress, which can lead to an array of negative second- and third-order effects including turf battles, "rice bowls" and "stove-piping" (Andreas, 2010).

Numbers can be fudged or manipulated to support the assertion, which has become nearly ubiquitous, that transnational crime is a large and growing global threat and that its continued growth is a *fait accompli*, without much thought given to the possibility that global crime could ever possibly ebb or that this upsurge could be reversed. "This is not to suggest that the illicit global economy is not a serious problem and should not be treated as a major public policy concern, but to stress that the numbers are often highly suspect but nevertheless popularised and rarely critically scrutinised, and that there are strong incentives to accept and reproduce rather than challenge and critique them" (Andreas, 2010).

Customs officials in the United States have long acknowledged what many observers suspect – seizures at the border are merely a small percentage of the overall flow of drugs, even though this metric has historically been a top indicator used by customs agents to justify their mission, fend off political attacks and ensure continued funding (Andreas, 2010). Policy measures like judicial reform and other forms of reinforcing institutions are not politically popular because of the lag effect from input to output. They could have longer-term benefits, but they are less visible in the short term and they are more difficult to quantify. The onus is on scholars, academics and practitioners to question the use of "dubious statistics to influence the policy debate and perpetuate wrong perceptions of the issues" (Picard, 2013).

The other major element of the politicisation of data on the global narcotics trade is related to what cognitive scientists have called "anchoring effects." This term describes the phenomenon whereby social scientists, politicians, diplomats, government officials and policy makers "fixate on numbers they have heard, even if those numbers are arbitrary or wrong" (Andreas and Greenhill, 2010). As part of the decision-making process, humans "anchor" on specific values, and in turn gravitate back toward that value to account for other elements of the circumstance that were previously unexplained. Once an anchor is set, there is a continuous and repeated bias toward it (Tversky and Kahneman, 1974). The blame for anchoring does not fall squarely and solely on decision makers, however. The media is also partly at fault, since journalists will use numbers if they are big, originate from a "seemingly authoritative source" and do not already contradict the point that the reporter was attempting to make in the first place (Andreas, 2010).

Definition of illicit trade in illegal narcotics

Before any discussion of the consequences of global illicit trade in illegal narcotics, it is essential to establish a clear definition of what is meant by the phrase. To begin with, for an offense to be considered transnational, the underlying act must: be committed in more than one state; committed in one state but planned from another state; involve a conspiracy to commit a crime by a group that maintains a presence in more than one state; or have had substantial effects in another state (Picard, 2013). By sector or category, there are numerous ways to group illegal narcotics, but this report limits the

categories of interest to the following: opiates, cocaine, cannabis and amphetamine type stimulants (ATS) (see UNODC, 2014; European Monitoring Centre, 2014; INCSR, 2014).[2] Additional categories could include new psychoactive substances and synthetics, as well as the precursor chemicals needed to transform plant-based or synthetic drugs into the final product. Besides the actual products involved, it might be useful to conceptualise the global illicit trade in illegal narcotics from a systems perspective, focusing on the producers, the traffickers and smugglers, the consumers, logistical hubs and counter-narcotics organisations. Below, the report will detail the interaction of both products (narcotics) and roles, focusing in particular on major known flows and hubs, with specific attention devoted to the smuggling and trafficking of cocaine and heroin.

Major known flows/hubs of illicit trade in narcotics

While illegal markets and drug trafficking organisations (DTOs) are often the unit of analysis, little attention is devoted to the flows, routes and hubs along which these groups operate and narcotics are smuggled and trafficked.[3] Maritime transport and overland routes dominate the narcotics trade in terms of quantity trafficked, but it should be noted that air transport also plays a part, e.g. by human couriers, internally and in baggage, in air cargo and through fast parcel services (RILO WE, 2013). The leading source countries for cocaine are all located along South America's Andean Ridge and include Colombia, Peru and Bolivia (Millett, 2008). The leading source countries for heroin are Afghanistan, Burma Mexico and Pakistan. One characteristic common among all of the world's major opium- and coca-producing states are that they are either ravaged by conflict, unable to control their entire territory, or experiencing varying degrees of political instability (Patrick, 2006).

This section will identify the major routes, from source to market, for cocaine and heroin, although these routes and hubs obviously facilitate the illicit flow of many different commodities as well, including narcotics but also contraband such as weapons and humans. Although the focus here is on cocaine and heroin, cannabis is the largest narcotics retail market. Domestic production of both cannabis and synthetic amphetamine-type stimulants (ATS) is an important dimension of the illicit drug market and, especially in the case of ATS, may be associated with illicit trade both within Europe and more widely. Such more localised trade may pose different problems and opportunities for intervention to intercontinental flows.

Cocaine routes

There are four well-known smuggling routes for cocaine that ebb and flow in importance over time depending on a host of factors, including the activity of law enforcement, conflict or instability in countries along the route and many other variables that are constantly in flux.[4]

The first major route for cocaine is known as the Southern Route, which extends down through South America and out from Uruguay and Brazil to either Spain or Portugal as the ultimate destination countries, before being sold on the streets of Europe. Sometimes the cocaine is sent first through South Africa or West Africa before being moved onward to Europe. In Argentina, *Ruta 34* has gained notoriety for its role in the movement of cocaine. This 1 500-kilometre road stretches from the Bolivian border to the Argentine city of Rosario, where drug trafficking organisations receive the shipments and move them on toward their next destination (Ramsay, 2010). Operations along the

Southern Route have been bolstered by Serbian criminals who have established connections throughout Latin America and now rely on Brazil as a hub for cocaine trafficking, due in part to that country's cultural and historical links with Portugal, as well as for its major economic activity, commercial and transport infrastructure (Navear, 2012).

The second major route for cocaine is the Caribbean Route, which stretches through the Caribbean Sea via the Azores to Portugal or Spain. According to the International Narcotics Control Board, approximately 40% of European cocaine shipments go through the Caribbean before reaching Europe (INCB, 2007). The Caribbean Route is frequently used by drug trafficking organisations in Colombia and Venezuela, as well as Jamaican and Dominican gangs firmly entrenched in both mainland Spain and the Canary Islands. Cocaine trafficking along this route is facilitated by the historical relationships between a number of countries and their former colonial holdings, including the Netherlands and the Netherlands Antilles; the United Kingdom and Jamaica; France and Martinique and Guadeloupe; Portugal and the role played by the archipelago of the Azores; and finally, the importance of Spain (especially the port of Algeciras in southern Spain) where Colombian drug traffickers take advantage of historical and linguistic affinities.

The third major route for cocaine is the West Africa/Sahel Route (Cockayne, 2012 Lacher, 2012; Wanneburg, 2005; Mazzitelli, 2007; McGuire, 2010; UNODC, 2007). This route has been pioneered by Colombians flying directly from Venezuela to Guinea-Bissau (Hawley, 2010). Some shipments are moved through Central America and on to one of two transhipment centres located in either Guinea/Guinea-Bissau or alternatively, to locations in the Gulf of Benin, along the coast from Ghana to Nigeria (Caunic, 2013). Organised criminal groups in Nigeria play a significant role in this area of operations and use West Africa as a headquarters for their drug-trafficking operations. Its operatives maintain an extensive network that extends beyond West Africa and to networks in countries including Cambodia, the Czech Republic, Germany, the United Kingdom, Hungary, Italy, the Philippines, Singapore, Thailand, Turkey, the United States and Australia (Cockayne and Williams, 2009). After the cocaine reaches West Africa, it is transported north. Operatives in Morocco have taken on a growing role, and long-standing hashish routes have been used to transport cocaine into Europe. Perhaps unsurprisingly, a 2009 report from the U.S. Drug Enforcement Agency noted the presence of South American and Mexican drug trafficking organisations in the region (Wyler and Cook, 2009).

The fourth and final major route for cocaine trafficking is known as the Southeastern Europe Route, which stretches through the Balkans and into Southeastern Europe, where large shipments arrive in the ports on the Adriatic and Black Sea. This region is plagued by several issues of instability, including a steady presence of criminal organisations, financial volatility in Greece, the ongoing civil wars in both Syria and Ukraine, and the overwhelming influx of refugees into Turkey. All of the aforementioned factors, combined with the liberalisation of trade in the region, have coalesced to provide a boon for cocaine smugglers and traffickers. Bulgaria is an important transit point for cocaine shipments arriving from Latin America (especially the port of Varna) after being trafficked from West Africa via Turkey and the Balkan routes (Williams, n.d.). Many of these shipments are ultimately destined for organised criminal groups based in Italy, including the Ndrangheta, which maintains a base and links to Argentina and Colombia as well as close links to drug trafficking networks in Colombia and Mexico (Associated Press, 2008; Wilkinson, 2007; Corcoran, 2011). As mentioned in the section on the

Southern Route, organised crime groups from the Balkans, particularly from Serbia, have established bases in Latin America in order to get closer to the source (Europol, 2011).

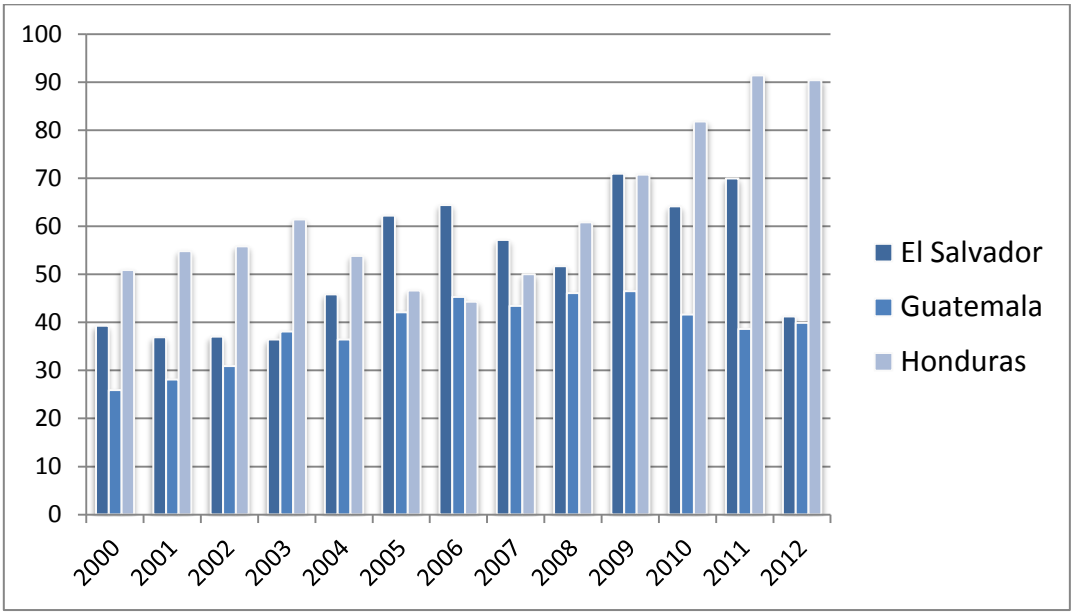
In addition to critical routes along which cocaine is trafficked, there are also several key arrival/smuggling points and distribution hubs, where criminal logistics equipped to receive illicit flows from numerous sources are concentrated. In Europe, the most important hub is in the southwest, comprising Spain and Portugal. Other critical hubs are located throughout Europe, including in the northwest (in the Netherlands and Belgium), the southeast (Bulgaria, Romania and Greece, including the ports of Varna, Constanta and Piraeus, respectively), in the south (from southern Italy up north to Milan, where the Ndrangheta is geographically situated between the EU member states of Western and Southeastern Europe) and finally in the northeast, where the Baltic countries are the least important of Europe's five primary hubs for the flow of cocaine. Part of this may be due to geography, as the Baltic ports are further away, but there are a bevy of other potential factors, including more difficulty in masking drugs amongst legal shipments because of the lower volume of legal trade with Latin America, stronger governance in these countries than in other European entry points, the possibility of higher costs and lower margins for traffickers who receive the product in the Baltics points of entry and move it into main EU markets. The result is likely a combination, to varying degrees, of each of the aforementioned variables.

Central America's Northern Triangle

The case of drug trafficking networks in Central America's Northern Triangle demonstrates the challenge of high-intensity crime and surging levels of drug-related criminal violence in countries not engaged in civil war or battling insurgencies. The Northern Triangle is a large swath of territory in Central America formed by the countries of Honduras, El Salvador and Guatemala and geographically located between source countries for cocaine in South America (Colombia, Peru, Bolivia) and the destination market of the United States. Throughout the Northern Triangle, various forms of non-state armed groups (NSAGs) – transnational criminal networks (TNCNs), violent drug trafficking organisations (VDTOs) and street gangs – have established a presence and capacity to use force that rivals or surpasses that of public authorities. Transnational criminal networks seek to control territory with the end goal of establishing a headquarters or base from which to direct their illicit activities. Like insurgents, the violence perpetrated by non-state actors in the Northern Triangle undermines the legitimacy of the state. Unlike insurgents, the TNCNs, VDTOs and street gangs have no interest in governance (Rodgers and Muggah, 2009).

Murder rates in countries comprising the Northern Triangle have consistently ranked among the five highest globally, ranging from between 50 to 90 homicides per 100 000 citizens (Farah and Phillip, 2013; UNODC, 2013). Honduras serves as a critical logistical hub for the cocaine trade between the Andes (source countries) and North America (destination countries) (Bosworth, 2011; UNODC, 2013). It has the highest homicide rate in the world, and organised crime allegedly has links to the police. Before resigning amidst allegations of corruption and incompetence, the attorney general of Honduras testified to Congress that police only have the resources to investigate 20% of the crimes reported (Cawley, 2013).

Figure 6.1. Homicide rates in Central America's Northern Triangle countries/territories, 2000-2012



Source: UNODC (2013), *Global Study on Homicide 2013, Data and Statistics*, www.unodc.org/gsh/en/data.html.

The Northern Triangle countries face a unique set of challenges. In El Salvador, the street gangs or *maras* present the most significant challenge (Farah and Phillip, 2013).[5] In Guatemala, the violent criminal group known as Los Zetas has taken hold. And in Honduras, political dysfunction, porous borders and allegedly massive levels of corruption contribute to poor governance. In all three of the Northern Triangle countries, criminal organisations are reported to work with agents of the state in what Douglas Farah has labelled the "transactional paradigm", where the state either abets or performs criminal activities in exchange for money (Cawley, 2013). The most important nodes in these criminal networks may be the facilitators with the willingness, ability and connections to connect illegal factions with legal institutions (Garzon Vergara, 2012). The political-criminal nexus takes a different shape in different countries, as detailed in a study of countries with many similar structural factors to the countries of the Northern Triangle (Garzon Vergara, 2008).

Los Zetas is comprised of former Mexican paramilitary soldiers and is now heavily involved in a range of trafficking and smuggling rackets throughout the Northern Triangle.[6] Unlike traditional criminal gangs in Guatemala, which historically have relied upon *transportistas*,[7] Los Zetas have essentially cut out the middlemen by establishing a presence in a certain area and proceeding to develop an intelligence network while killing or coercing those individuals or groups that dare resist the organisation (Espach et al., 2011). It has established a sophisticated infrastructure in Guatemala, relying on go-fast boats and self-propelled semi-submersible boats to transport drug payloads through maritime trade routes.

Once merely a drug-trafficking organisation, in recent years, Los Zetas has diversified its criminal portfolio and extended its geographic reach to mirror that of the most sophisticated TNCNs (Dudley, 2012). In areas where they operate, members of Los Zetas

launder proceeds from their criminal activities through front companies, agribusiness and public works contracts (Dudley, 2011). Its intelligence and communications capabilities enable it to conduct surveillance and employ a wide range of denial and deception, political manipulation, information operations and counterintelligence techniques to protect its illicit operations throughout the Northern Triangle. In attacks against both rival trafficking groups and Guatemalan government forces, members of Los Zetas routinely use assault rifles and grenades to overpower their adversaries (International Crisis Group, 2011). In recent years, they have recruited Guatemalan *Kaibiles* into the organisation.[8]

The Northern Triangle suffers from what is called "the vicious cycle of gangs" (USAID, 2006). In short, a dearth of economic opportunities increases the incentives for gang membership and gang-related activities, which puts pressure on government to increase anti-crime and private security resources. In the short term, this reduces the resources available for investment in basic public services, which, all things being equal, further depletes the prospect of delivering economic opportunity.

The gangs are inextricably linked with the VDTOs and in some cases integrated with the organisations, but are more often working as subcontractors of violence, enforcement or distribution. There are at least five ways in which contemporary Central American street gangs threaten security: they strain governments' police and law enforcement capacity; they challenge government legitimacy by calling into question the state's ability to provide security and basic services; they act as surrogate governments, extorting taxes and providing "protection" where they are allowed to; they dominate the informal economic sector, using violence and coercion to provide enterprises that operate or support unfair competitive advantage; and they infiltrate police and other government entities in support of their other goals (Bunker and Sullivan, 2010).

The homicide rates in the Northern Triangle would seem to make more sense if any of these countries were currently in the midst of a civil war. However, conflicts, even those criminal in nature, rarely remain parochial for long these days. Rather, criminal groups eventually develop a transnational capability to maximise profits while resorting to violence to take control of smuggling routes. There are some indications that violence may be migrating, at least to some extent and in some countries, from political to criminal forms. As discussed in the case of the Northern Triangle, evidence of this possible trend is currently found in Central America, and such forms of instability may possibly take deeper hold in other regions – particularly regions of weaker states on the periphery of much wealthier areas driving demand for illegal goods and services.

The weakness of institutions in these countries suggests the need for building the capacity of government ministries and law enforcement capabilities. Strengthening the rule of law is necessary to make progress against some of the most visible drivers of crime in the region – drug trafficking, youth violence and gangs, and the wide availability of weapons and firearms left over from the contemporary history of the region's wars (World Bank, 2011). It is exactly these types of countries – those with a high criminal density and a long history of accumulated illegality and violence – that are the most vulnerable to transnational criminal networks and the criminal violence they instigate (Garzon Vergara, 2012).

Heroin routes

Global opium production is concentrated primarily in Afghanistan. There are two primary smuggling routes: the Balkan Route and the less travelled, but emerging

Northern Route.[9] The Balkan Route leaves Afghanistan to the west through Iran, enters Turkey and continues onward. In the case of the Northern Route, it leaves through Central Asia and into Russia. A third recent route consists of heroin traveling from South Asia to East Africa and then southward on the continent before moving North through West Africa on to Southern Europe.

The Balkans is a preferred route for smugglers of all sorts, not only for trafficking narcotics. In addition to drugs and guns, smugglers traversing the Balkan Route carry everything ranging from humans to cigarettes, while also driving stolen automobiles across borders. Indeed, the region serves as a "major human cargo trans-shipment point" for migrants and women smuggled into Europe, including many from Iran (Andreas, 2004). During the 1990s, operatives in Montenegro were key links in an untaxed cigarette smuggling ring stretching throughout the Middle East, Central Asia, the Maghreb, the Balkans and Western Europe (Glenny, 2008). Private security firms stole and sold automobiles, which could be located with the help of these same firms for a modest fee. On the Balkans Route, criminals of all types can expand their networks, determine which gangs specialise in moving which products, and in turn, discern who has a comparative advantage.

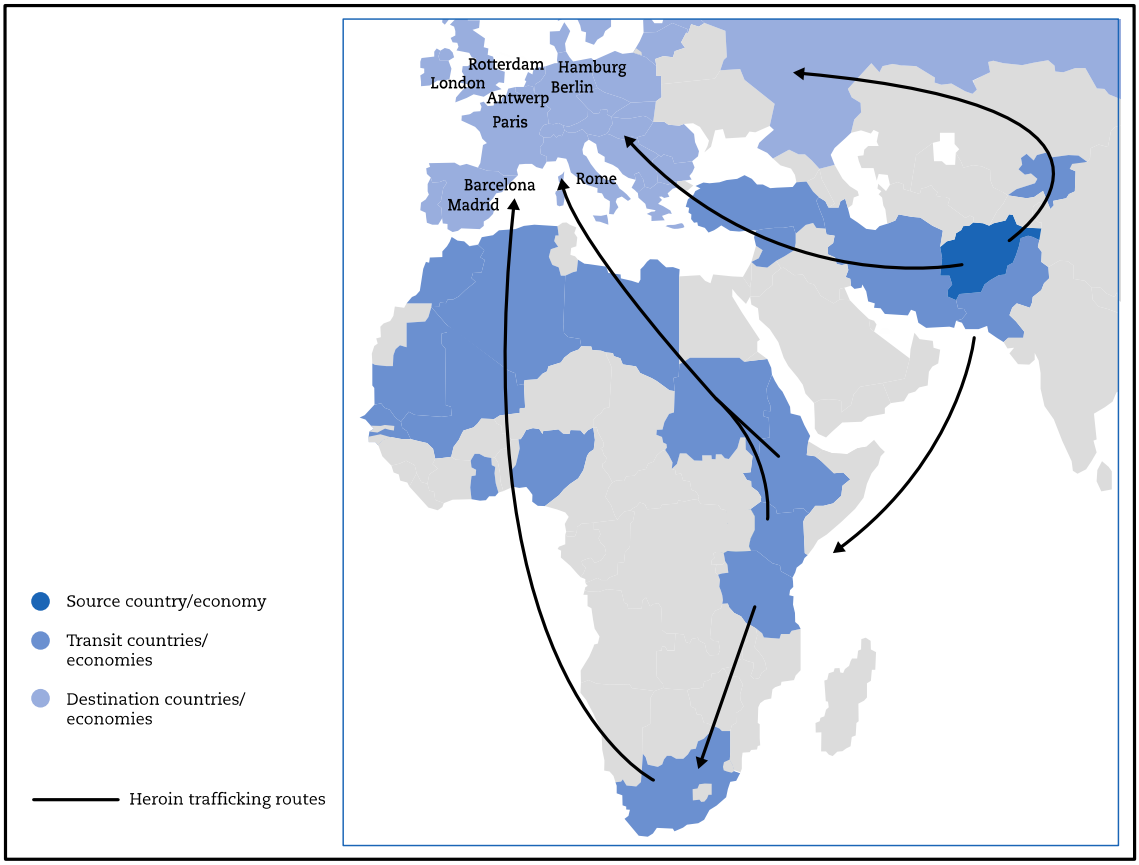
Key arrival/smuggling and distribution hubs for heroin travelling along the Balkan Route include Iran, primarily due to its border with Afghanistan, as well as Istanbul, Turkey. Numerous groups battle for control over the main smuggling routes from Turkey and the Balkans further on into Europe, including Balkan and Albanian criminal groups and Kurdish drug-trafficking networks that have established long-standing ties in various countries throughout the continent, including the Netherlands (a key staging point for drugs moved to the United Kingdom) and Germany. These hubs are important for their proximity to destination markets, commercial, transport and communications infrastructure, as well as the prevalence of other criminal groups that might be called on to provide assistance on an as-needed basis. It is well known that in addition to narcotics, these hubs are critical for the movement of migrants, counterfeit goods, stolen cars and a long list of other illicit contraband (Todorov et al., 1998 Gilmore 1999).

Money laundering enables criminals and the political elite to disguise their ill-gotten gains. In some instances, money has been laundered through the banking system, as it was in Mostar, Croatia, by the Hercegovacka Banka (Dobbins et al., 2008). At other times, laundered funds in the Balkans were reportedly linked to Colombian drug traffickers (Glenny, 2008). "War is a continuation of business by clandestine means: military success often hinges on entrepreneurial success in the murky underworld of smuggling," notes Andreas (2004). This "murky underworld of smuggling" turned gang leaders into powerbrokers able to liaise with political elites to maximise the consolidation of resources. In this region of the world, organised crime, which mingles with unscrupulous politicians, is a form of malignant civil society that has taken root and attenuated the power of already weak states.

The Northern Route for trafficking opium from Afghanistan through Central Asia gained prominence in the context of newly independent states on Afghanistan's northern border (Paoli et al., 2009). As Cornell (2007a) notes, of the five states through which heroin is trafficked, based on officially documented seizure rates, Tajikistan is the most heavily used by drug traffickers (Cornell, 2007a). To the surprise of few, corrupt government officials in Tajikistan have been closely linked to facilitating the drug trade in that country (Greenhill, 2009).

Finally, the less frequently used Southern Route has gained prominence since 2014. Along this route, heroin flows from Afghanistan into Pakistan and leaves by boat before ending up in ports of eastern Africa and being moved on to points in Southern Africa. This route has grown in importance (see Figure 6.2) following improved law enforcement efforts in central Europe, and due in part to the chaos of the Syrian civil war. Geographical proximity and limited law enforcement capacity in Kenya and Ethiopia make them obvious choices for the transit of heroin originating in Asia. Southern Africa is a hub for both heroin and cocaine transit due to its well-developed transportation infrastructure (INCB, 2014).

Figure 6.2. Global heroin trafficking routes (2015)



Source: Author

Whether or not the "Smack Track" will lead to an expanded market share for criminals has yet to be determined. Viewed in isolation, market size can be "a helpful starting point for measuring the degree of nuisance of organised crime, its corrosive impacts on society and institutions, and the overall indirect impacts on trade. However, it is not necessarily a relevant indicator of general social, economic or environmental harm" (Picard, 2013). As such, the section below outlines some of the consequences of the illicit

trade in illegal narcotics, including the negative political, economic and social costs borne by host-nation governments – producer, trans-shipment and consumer states alike.

Consequences of illicit trade

With so much focus on the validity, reliability and accuracy of data on the illicit trade in illegal narcotics, what often escapes scrutiny is the host of serious consequences across the political, economic and social levels of society, and how these consequences affect states. While some scholars argue that analysis should highlight the dangers posed by criminal organisations, others argue that the impact of illicit markets is more important than the criminal actors themselves (Picard, 2013). Put another way, the negative externalities of the markets are an important consideration, leaving aside the character of the groups that operate them.

Political impact: Mafia states and corruption

In the zero-sum nature of politics in some West Africa economies, laws are manipulated and selectively enforced to serve those with political connections (Reno, 2009). In many cases, corruption is just as much about greed as it is about building a personal power base against rivals. As politicians misuse public funds with revenues that should be redistributed to rebuild infrastructure or to invest in the region's human capital, the treasuries of state institutions are being drained. Those formal sources of revenue collected are often used to reward allies and target political rivals. In West Africa, anticorruption investigations tend to single out "low-level or exiled officials, with no mention of incumbent strongmen," Reno notes (1998). In this corner of the globe, corruption has been perhaps the most consistent, defining feature of government. To many scholars, this should not come as a surprise, given that corruption in West Africa is a deliberate strategy and not necessarily something to be bashful about. Many African leaders myopically use revenue as a resource to be exploited, in an example of what has referred to as "common pool resources" (Ostrom, E. et al., 1993, see also Herbst, 2000). Transit countries are at high risk of public and political corruption, and this tends to produce undesirable social and economic outcomes for the citizens who have to live under such regimes.

Beyond a doubt, corruption is a key enabler of the patronage networks that can be both an inhibitor and facilitator of economic activity and have come to dominate West Africa. People can accept, however begrudgingly, a certain level of ineptitude. But outright discrimination and obstructionism are different from feeble state capacity. The denial of human rights, a blatant disregard for democracy and the rule of law, and a highly fragmented state that actively stifles dissent has led to regimes long since hollowed out by corruption and system of patronage that fails to spread wealth.

During the 1990s, West Africa emerged as a critical hub in the global narcotics trade, with South American cocaine transiting through the region before being reshipped to Western Europe and parts of Asia, including Russia. Other drugs, including heroin, marijuana and methamphetamine, are also regularly trafficked through the region (Grant, 2007). Over the past decade, Latin American drug barons have shifted a share of their wholesale distribution network to West Africa. The region is now at the nexus of wholesale repackaging, rerouting and resale of drugs (Brown, 2013). Organised criminal syndicates from Nigeria are active throughout narcotics trafficking networks in West

Africa, utilising extensive contacts abroad in the United States and Europe to arrange and broker deals, as well as serve as middlemen for transportation.

In addition, a long-standing and well-documented number of narcotics smuggling networks date back decades, when the commercially powerful syndicates from Lebanon first used the region as a transit zone for heroin (Ellis, 2009). Traffickers from the Lebanese diaspora in West Africa co-existed, not always peacefully, with crime bosses from Russia, who used Sierra Leone as a headquarters to smuggle Soviet diamonds in exchange for heroin from Thailand (Ellis, 2009). Other international criminals included Dutch drug gangs that used West Africa as a transhipment point for hashish from Asia and as a conduit for South American cocaine destined for the United Kingdom (Ellis, 2009).

Guinea-Bissau has seen a steadily growing involvement of political and military actors in the drug trade, especially cocaine trafficking. The vast amounts of money available are affecting elections and both local and traditional governance, which in turn affect security on multiple levels. An ancillary effect has been increasing factionalism, with drug-trafficking organisations funding local military cliques as well as providing the tools and tacit knowledge necessary to engage in political assassinations. Much as in Central America, outreach efforts by civilian reformers are met with coercion and violence (Cockayne, 2012).

Guinea-Bissau suffered from violent struggles between political and military elites before cocaine was a major factor in the region; now that the drug trade is entrenched and pervasive, this has only exacerbated long-standing problems (Ellis, 2012). The killing in 2009 of a top general and the president are thought by some to have been the result of the struggle for control, and the April 2012 overthrow of the government more of the same, with trans-shipment of cocaine increasing significantly after the coup (Nossiter, 2012). Politicians, law enforcement personnel and military officers have either been directly implicated in drug trafficking or have been alleged to have provided assistance to drug-trafficking organisations. The nature of the relationship is such that "political actors are using criminal organisation as an aspect of statecraft, and criminal actors are using political privileges as business assets. Traffickers get access to state immunities, passports and diplomatic bags, airspace and maritime approaches, and even state-owned vessels. National political and military institutions are in turn used to tax the trade" (Cockayne, 2012).

High levels of corruption, a lack of the rule of law, and police forces overwhelmed by general security issues, to say nothing of counter-narcotics, make West Africa the ideal "soft target" for drug traffickers. This is especially true of criminals who are seeking to use the region as an area to forge new criminal relationships and illicit partnerships (Cockayne and Williams, 2009). "Indeed, the more capable organisations are at corrupting officials, the more legitimate their activities become," observes Audra Grant (2007). Another pressing issue for West African governments is that transport hubs all ultimately absorb some of the problems in the host countries themselves, as drug users proliferate alongside the networks that smuggle these same drugs.

States throughout the region have developed into examples of what Jackson (1990) has dubbed "quasi-states," governments that have been internationally enfranchised but lack the political will, institutional authority and power to protect human rights or provide for the socio-economic welfare of their own citizens (Jackson, 1990). Weak governance in West Africa extends beyond merely ineffective government institutions, a lack of basic

public services and poor leadership. Few educational opportunities and little possibility of advancement, a decimated infrastructure and low adult literacy are all symptoms of states with a compromised capacity to govern.[10] But what accelerates the corrosion of the state is the lack of political will and absence of commitment to improve the situation.

Patronage politics

Extensive patronage networks lead to the excessive centralisation of authority at the expense of the government bureaucracy. Functional gaps meant that governments are unable to deal with serious issues such as poverty, deprivation and the challenges of population flows and mass migration. Capacity gaps make regulatory mechanisms at the regional and international levels nearly impossible to enforce. And legitimacy deficits leave patronage as the only real option for survival (Reno, 1998). To make up for the lack of social provisions, a small, ruling elite engages in patronage, characterised by the exchange of benefits for political support. These benefits are typically economic in nature, whether in the form of money, jobs or access to valuable resources. Since this style of patronage allows for a certain level of "independent business activity," the inevitable result is a struggle to control economic rents and the simultaneous existence of a rentier state and predatory warlords (Reno, 2009).

Guinea-Bissau is quickly transforming into the archetypical "mafia state", led by rulers who rely on patronage networks for survival and are forced to hire private security for protection. Young people join these networks to serve as "muscle" for the political machine. A lucky few with access at high levels are able to secure positions as local political bosses or connections to the narco-economy. In countries like Sierra Leone, individuals have demonstrated loyalty to state officials in exchange for being allowed to participate in the "official" illicit diamond mining economy (Reno, 2010). They prosper as part of joint ventures with the leadership, which allows them to liaise with foreign diamond traders and connect to commercial markets. In Guinea-Bissau, the same *quid pro quo* occurs, except that the economy is built around access to the drug trade rather than diamonds.

Many of the gangs at the lower levels are comprised of marginalised youth who used drugs, eschewed traditional authority structures and were generally disconnected from society. As smaller groups of this ilk proliferate, individual fiefdoms are established, leading to the spread of warlords only interested in the profiting from the drug trade. Needless to say, warlords use violence and coercion to maintain a hold on these fiefdoms. But the fact of the matter remains – these same violent warlords offer disenfranchised youth one of their few opportunities to participate in any kind of economic activity (Reno, 2009).

Before it ever happened with the criminal patronage networks that dominate Afghanistan, overlapping conflicts in West Africa saw government officials and insurgents mingle closely. The result was that the composition of insurgent groups soon closely resembled the very government against which these groups were fighting (Reno, 2003).

Economic impact: Black markets and shadow economies

The economic impact of drug abuse throughout the world is difficult to quantify, but includes costs associated with hospital and emergency room visits and other medical costs, a higher incidence of disease (especially disease related to intravenous drug use

like HIV/AIDS), increased criminal activity and productivity lost through drug abuse (UNODC, 1998). The illicit trade in illegal narcotics is connected to every sector of the economy, from the influence of drugs on employment status and productivity to the generation of employment, inflation, income distribution and finance and investment.

Throughout certain regions of the globe, such as Central America's Northern Triangle, the Caucasus region of Central Asia and indeed the Balkans, trafficking illegal goods almost certainly qualifies as one of, if not the, single most lucrative form of economic activity. In these regions, the black market economy is not an anomaly, but on the contrary, serves as the main form of economic activity and development. In states where law enforcement is weak, criminal organisations may have the upper hand. As the UNODC (2011) asserts, "In many cases, profit from the heroin trade from the Balkans to Western and Central Europe exceeded the gross domestic product (GDP) of transit countries such as Albania and the Former Yugoslav Republic of Macedonia, posing a serious threat to the licit economy. Given the low GDP per capita across most of the Balkan countries, the heroin trade can significantly exacerbate corruption." Even years after the wars of the Balkans have petered out, black markets and shadow economies still provide a bevy of illicit opportunities to criminal entrepreneurs with the necessary skills and networks.

Toward the end of the 1990s, the black market was thought to account for roughly 50% of Bosnia's economy (Singer, 2000). During the height of the conflict, this figure was undoubtedly higher. Contributing to the pervasiveness of the illicit economy was a shadowy web of partnerships between the very groups that were fighting each other. Indeed, wartime interethnic co-operation in the form of clandestine trading demonstrated just how thin the line between patriotism and criminality had become (Andreas, 2004). Profit superseded ethnic loyalty in many cases, as the war took on a self-sustaining logic of its own (Donais, 2003).

As brutal as the conflict was, there is little doubt that connected elites profited from the suffering. At times, it seemed as though the ultimate goal of the warring parties, at least the well-connected war profiteers, was to extend the conflict, rather than bring it to an end. A stalemate settled in as the besiegers supplied the besieged and sustained the war through trade with the enemy (Andreas 2004). "Bosnia's own Muslim warlords controlled the entire economy of Sarajevo, trading with the Serb besiegers and then squeezing every last penny out of their compatriots by ratcheting up the price of basic foodstuffs, many of which were stolen from the United Nations and other humanitarian organisations" (Glenny, 2008).

The intersection between what Andreas has called the business of war and the business of crime resulted in a form of criminalised warfare where quasi-private criminal combatants served as mercenaries. Indeed, many of the militia and paramilitary formations fighting each other were nothing more than "small groups of politically empowered thugs" who were largely "drawn from the ranks of soccer hooligans, criminal gangs and released prisoners" (Andreas, 2004). These were essentially criminals for hire, who were willing to kill so long as they received adequate remuneration for their services. Nowhere was the shadow economy more evident than in the popularity of what came to be called the Arizona Market. Constructed as an open-air bazaar in 1996, with the intent of revitalising trade and the local economy in the Brcko District of northeast Bosnia, the Arizona Market soon morphed into an outpost of illegal activity. Four years after it opened, the market housed 2 000 shacks spread over 35 acres near the headquarters of

4 000 peacekeeping troops (Andreas, 2008). Every weekend, 25 000 people visited the market, which supplied income to approximately 20 000 individuals from the region.

As the laws of supply and demand took root, the Arizona Market served as a hub for human smuggling (illegal migrants and prostitutes were trafficked from Moldova, Ukraine, Romania and other nearby Eastern bloc nations) and every other imaginable illicit vice. Each year, the Bosnian state lost out on an estimated USD 30 million in tax revenues that could have been used to help rebuild the shattered nation (Andreas, 2008). Instead, profits from contraband trade were either pocketed for personal gain or funnelled back into nationalist causes, which had the opposite of the intended effect of fostering ethnic integration.

Few could fault the desperate participants from engaging in this form of unregulated commerce. The transition from socialism to the most unbridled form of capitalism imaginable, ungoverned by rules or regulations, provided the kinds of economic opportunities once only afforded to the *nomenklatura*, and even that was conducted in secret and on a much smaller scale. The Arizona Market was a mere microcosm of the illicit economic trade occurring every day throughout the Balkans and helped contribute to a legacy of laissez-faire that would outlive the war itself, further complicating post-conflict efforts to restore a semblance of order and the rule of law to Bosnia and its environs.

Organised criminal groups in the Balkans have long capitalised on the geographic bridge between east and west to meet demand for illegal goods. "The Balkan Route" stretches from Afghanistan and Iran through Turkey-Bulgaria-Yugoslavia-Hungary, or Albania to Western Europe (Bacon, 2007). Eighty percent of the heroin seized (with a value of EUR 400 million) comes through some iteration of this route. Drug traffickers in the Balkans follow the same business model as those in Central America; they break up larger shipments into more manageable loads and store the narcotics in depots or strategic warehouses throughout Eastern and Southeastern Europe (Koppel and Szekely, 2002).

Drug trafficking in the Balkans is estimated to earn criminal groups approximately USD 7 billion a year, as drugs make their way from South Asia through the Balkans and on to Western Europe, transported by trucks, cars, speedboats and large ships (Bacon, 2007). Within the Balkans, Albania is a commonly used strategic location, through which cocaine, heroin, marijuana and hashish pass through en route to Italy and Greece (Bacon, 2007). Many Albanian criminals have ties to other powerful criminal syndicates, including Italian organised crime (Koppel and Szekely, 2002). Croatia also sees heavy drug traffic and has earned a reputation for being a "smuggler's paradise," largely due to its 1 000-kilometre coastline and more than 1 000 small islands (Bacon, 2007).

Throughout the conflict in Bosnia, United Nations peacekeepers from UNPROFOR were alleged to have engaged in drug trafficking with the help of the Sarajevo mafia (Andreas, 2008). Reports suggest that Ukrainian UNPROFOR soldiers imported heroin into Bosnia using UN vehicles (O'Kane, 1993). In 1993, heroin was discovered in a shipment of sugar originating from Ancona, Italy, delivered to Bosnia via a UNHCR airlift (Andreas, 2008). Fragile states, defined as those with "weak capacity to carry out basic functions of governing a population and its territory and being unable to develop mutually constructive and reinforcing relations with society," are havens for illicit behaviour (Miraglia et al., 2012). Since the drug trade can be endemic to regions of conflict where fragile states predominate, even the soldiers sent to keep and enforce peace feel at liberty to enrich themselves by joining in the trade.

Second- and third-order effects of drug trafficking

In addition to the political and economic consequences of illicit trade in narcotics, the transnational drug trade "involves criminal activities that impact the security of citizens, undermine the authority of states, erode the social fabric, criminalise society and generate an overall cost of crime that must be borne by society" (Picard, 2013). The second- and third-order effects of drug trafficking are pervasive and far-reaching. Besides the obvious consequences in the economic, political and security realms, the illicit trade in illegal narcotics has consequences for family and community, public health, education and the environment.

Substance abuse is one of several corrosive factors contributing to the disintegration of the family. When the primary earner in the family is the individual most directly affected by drug abuse, this exacerbates the situation. All of these sectors affect overall levels of civil society. From a public health perspective, drug addiction, disease and deaths from overdoses place a strain on the medical and health resources. Addiction is a problem not just for destination or consumer countries, but also for source and trans-shipment states as well. According to a 2009 drug abuse survey in Afghanistan, between 2005 and 2009, the number of opium users increased by 53% to 230 000 people, while the number of heroin users increased to 120 000, a 140% increase that made Afghanistan the country with the highest opiate prevalence rate in the world; even higher than neighbouring Iran (UNODC, 2010). Finally, environmental damage is related to the illicit trade in illegal narcotics and is caused in producing countries by deforestation, the growing of crops as monocultures, the processing of harvested plants into drugs and the use of environmentally dangerous chemicals in production, processing and eradication (UNODC, 1998).

In the short term, much of the harm from drug trafficking has been in supplier and trans-shipment countries. In the longer term, however, consumer countries like the United States and European countries will suffer some of the harmful effects created by the large-scale demand for and continued consumption of illegal narcotics. Unfortunately, the developing countries that have growing markets for domestic consumption are among the least equipped to handle the fallout from death and disease. These countries simply do not have the resources to mount a public health awareness and treatment campaign on par with countries like the United States, Canada or the United Kingdom. From an environmental standpoint, the cultivation and processing of illegal narcotics (as well as from the counter-narcotics techniques used to combat the drug trade) can lead to a host of negative impacts, including deforestation, pollution and the contamination of critical water sources.

Nexus with transnational organised crime

Among scholars and practitioners engaged in combating transnational organised crime, one of the heated debates of recent years is the extent to which a convergence or growing nexus has grown up between transnational organised criminal networks and terrorist or insurgent organisations. For this chapter, the more pressing concern is the convergence between the illicit trade in illegal narcotics and other sectors of illicit trade, but the crime-terrorism nexus debate is also relevant. In many cases (though by no means in *every* case), where a convergence between illegal narcotics and other sectors of the illicit trade occurs, terrorist or insurgent groups lie at the core of the problem.

To be sure, many insurgents rely on criminality for financing. After the Cold War, superpower financing of proxies was withdrawn, making states weaker and more susceptible to attack. Similarly, criminal and insurgent groups that had previously relied on state financing were forced to either become criminals or fade away. Even where groups specialise in one form of criminality, for example, narcotics trafficking, terrorists or insurgents rarely limit their activities to one sector of the illicit economy. Rather, groups known to smuggle and traffic narcotics have also allegedly profited from the illicit trade in a range of commodities, including humans, weapons, gemstones, antiquities, tobacco, pirated electronics and much more. These groups include the Provisional Irish Republican Army (PIRA), the Liberation Tigers of Tamil Eelam (LTTE), Hezbollah in Lebanon, Hamas in Palestine, the Kosovo Liberation Army (KLA), the Islamic Movement of Uzbekistan (IMU), the Kurdistan Workers' Party (PKK), the Revolutionary Armed Forces of Colombia (FARC), Al Qaida in the Islamic Maghreb (AQIM) and others (this list is not exhaustive). Perhaps the most notorious of these insurgent groups is the Taliban, a group that has elevated itself as an indispensable player in the global heroin trade, which it uses in part to fund and finance the ongoing insurgency in Afghanistan.

Afghanistan: Centre of the nexus

The Taliban's two primary sources of funding are the narcotics trade and money donated by sympathisers in the Middle East (Collins and Ali, 2010). The Taliban's position on narcotics has evolved considerably over the years. On occasion, the group has knowingly suppressed the cultivation of poppy in Afghanistan in order to manipulate the international market price. At one point, a Taliban ban on poppy cultivation suppressed the supply by 90%, increasing the value of the group's stocks by ten times the price (Felbab-Brown, 2006). While the Taliban frequently reversed itself on involvement in the illicit narcotics trade between 1994 and 2001, its position since then has been for the most part consistent.[11] Once the insurgency began in earnest, Taliban fighters made a series of shrewd manoeuvres, including advancing loans to opium farmers, in order to obtain their backing whilst simultaneously ensuring a future source of revenue (Peters, 2009). In line with its renewed offensive to win "hearts and minds," the Taliban now actively promotes poppy cultivation and provides protection to farmers growing the crop (Brahimi, 2010).

Though figures vary widely, the narcotics trade generates a profit between USD 70 million and USD 500 million per year for the Taliban.[12] Giustozzi provides a much tighter range, with estimates that the Taliban retains an annual surplus of between USD 110 million and USD 130 million (Giustozzi, 2010). Even after the costs of sustaining an insurgency are deducted, this is hardly a "rainy-day fund." How an insurgent group finances itself has a major impact on the motivation of its members, overall group morale, political legitimacy and the trajectory of the conflict. The Taliban does not rely solely upon narcotics as a means of funding its insurgent activities in Afghanistan, and indeed maintains diverse sources of financing, coupled with a robust support network that offers both active and passive support.[13] Part of the Taliban's war chest is derived from a multibillion-dollar trade in goods smuggled from Dubai to Pakistan (Rubin, 2000).

The Taliban's involvement with the narcotics trade has steadily increased. In 2004, the group was sending small teams to attack checkpoints or make diversionary strikes in order to protect opium cultivation. Three years later, by 2007, insurgent commanders were operating mobile laboratories to process heroin (Peters, 2009). In 2006 and 2007, UNODC estimated that drug trafficking generated between USD 200 million and

USD 400 million a year, including money earned through taxation on imports of chemical precursors (UNODC, 2009). Other estimates indicate that for every kilogramme of opium refined into heroin and morphine base, the Taliban collects USD 250/kg (Peters, 2009). If the United Nations' estimates are correct that Afghanistan produced 500 metric tons of heroin and morphine base in 2008, this means the group would have earned USD 125 million in that year alone. By 2010, the Taliban graduated to the more profitable end of the value chain – processing and exporting – which included as many as 36 different cross-border smuggling operations in which the Taliban was playing either a direct or indirect role (Peters, 2010).

As coalition forces continue to target the nexus between narcotics and the insurgency, the Taliban portrays itself as a defender of Afghans' livelihoods, while attempting to paint coalition forces as an occupying force intent on destroying the crop most important to the Afghan economy. Besides deriving significant financial profits from the drug trade in Afghanistan, the Taliban also gains political capital from its sponsorship of the illicit economy (Felbab-Brown, 2012). At various stages in the process, the value chain produces profits for myriad actors involved besides the Taliban, from Afghan government officials to *hawaladars* providing financial networks, to the rural farmers growing and harvesting the poppy. From a structural standpoint, the market is "well adapted to the characteristics of the product and to the nature and intensity of risks. Markets extend from the farm gate to the frontier and beyond, and there is working capital financing available at all stages, as well as credit and other inputs for producers" (World Bank, quoted in Felbab-Brown, 2012). The opium industry is capable of producing steady, reliable and relatively well-paying jobs (if only on a seasonal basis), while the bureaucrats in Kabul are unable to do the same. The opium economy in Afghanistan has developed an illegal but highly effective support system and infrastructure.[14]

Money generated through crime, extortion and fundraising is devoted to paying Taliban insurgents and obtaining weapons for the group's fighters. At various times, particularly when relations between the two groups were more cordial, the Afghan Taliban siphoned funds off for Baitullah Mehsud and the Pakistani Taliban over the border (Acharya, Bukhari and Sulaiman, 2009). Some reports have also indicated that the Taliban has engaged in heroin-for-arms trades with members of Russian organised crime (Williams, 2012).

The Taliban occasionally co-operates with the Haqqani network to achieve short-term objectives. Although the network is part of the insurgency, it also functions like an organised crime group, motivated by profits but also by issues such as honour, revenge and ideology (Peters, 2012). The Haqqani network is widely thought to be involved in the procurement of precursor chemicals such as acetic anhydride, lime and hydrochloric acid, which is conducted through legitimate fronts and aided by protection from elements of Pakistan's Inter-Service Intelligence (ISI), which has reportedly shut down any investigations into the smuggling of acetic anhydride (Peters, 2012). An analysis of recent events in eastern Afghanistan suggests that high levels of violence, rampant criminality and indiscriminate brutality could mean that the group has now become a criminal operation than an insurgent group.

Even if observers are unable to determine a ballpark estimate for Taliban profits, the opium economy has become an entrenched part of Afghanistan's larger economic system. Opium cultivation is widespread in Afghanistan, especially in the country's predominantly Pashtun southern provinces dominated by the Taliban.

At one point, the Taliban was described as "a loose alliance in which each region was responsible for raising its own funds" (Peters, 2009). While the organisation has never been considered a monolith, more recently, there have been signs that the insurgency is splintering into smaller factions across the country, including in Afghanistan's north, where non-Pashtun Taliban fighters are less interested in implementing *sharia* and are more concerned with non-ideological pursuits like earning money through smuggling and trafficking (Raghavan, 2015). With Hamid Karzai gone and the Ghani administration seeking to make progress in identifying and purging corrupt government officials, there is a sliver of hope that Afghanistan's criminal patronage networks can be attenuated. But even progress on this front, however unlikely, will do little to displace the opium economy, which is widely regarded among Afghans as an economic lifeline in and of itself. Indeed, unlike in countries like Guinea-Bissau, where the state has become directly involved in the drug trade, in Afghanistan, criminal activities such as trafficking "are less overtly the business of political leaders and more the province of an emerging criminal underworld with strong political connections" (Raghavan, 2015).

Convergence or divergence?

In the ongoing discussion and debate over whether or not and to what extent there is a convergence between terrorism and insurgency on the one hand, and transnational organised crime on the other, there are several side conversations and a tendency for scholars to talk past one another, even if they are in agreement about several of the most important factors being analysed. After reviewing some of the essential elements of the convergence or "nexus" discussion, this section concludes by arguing that at least in the short-term, the most immediate risks involve terrorists' reliance on crime, especially drug trafficking, to finance terrorist attacks in Europe and elsewhere.

Makarenko (2004) has written extensively about the relationship between criminal groups and terrorist organisations, as well as the types of activities they engage in to accomplish their objectives. Her "model of terrorist-criminal relationships" suggests that the relationship between transnational organised crime and terrorism should not be conceived of in terms of path analysis, but rather as a sliding scale on which groups can go back and forth between the extremes of crime and ideological insurgency, occupying any number of intermediate stages between these poles along the way. Cornell (2007b) asserts that as some terrorist and insurgent organisations grow more intimately involved in the narcotics trade, their ideological zeal may cool off, and their motivation turn from politics to profit.

Besides relationships between criminals and terrorists and the activities in which they engage, the structure of these organisations and their logistical requirements warrant further scrutiny. Hutchinson and O'Malley (2007) downplay the notion of a nexus, although they concede that under certain conditions, terrorists and criminals will co-operate for mutual benefit. Indeed, this co-operation is facilitated by the changing structural organisations of these groups, which have increasingly shifted to a more decentralised network, rather than a top-down vertical hierarchy (Dishman, 2005). From a logistical standpoint, some scholars argue that progressively, terrorists and criminals will begin to in-source the activities they used to outsource through co-operative relationships (Dishman, 2001), or what Williams has called "do-it-yourself (DIY) organised crime (Williams, 2008a). This includes developing an appreciation for the value of corruption and bribery, another facilitating factor in the convergence between crime and terrorism.

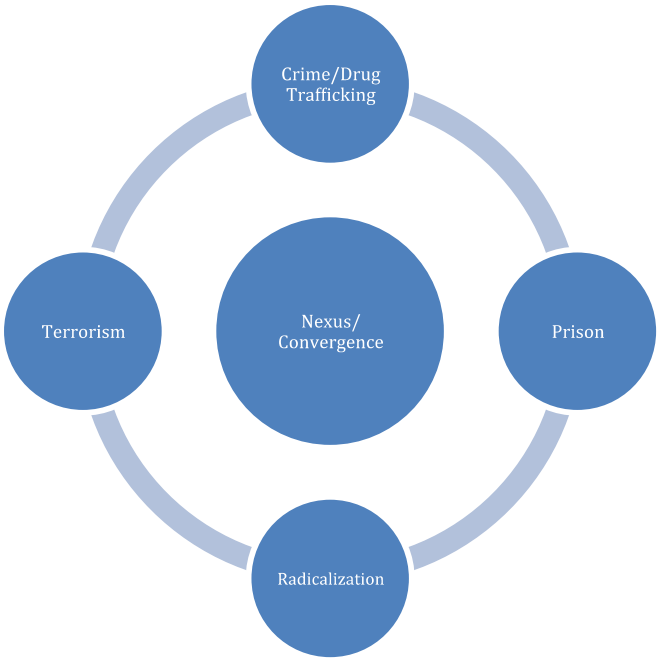
Whether criminals and terrorists continue to co-operate or whether each follows the DIY model, there are costs and benefits to either mode of operation. One obvious benefit of terrorists and insurgents participating in the drug trade has been a strengthening of operational capabilities and an increase in their legitimacy among producing communities (Cornell, 2005; Palma, 2015). In addition to money, the narcotics trade in drug-producing countries has the potential to provide terrorists with recruits and sympathisers among "impoverished, neglected, isolated farmers" who can help cultivate drug crops while also serving as a bulwark against pro-government groups and anti-drug campaigns (Rollins and Wyler, 2013; Felbab-Brown, 2010). The cultivation of illicit crops like poppy or coca is labor-intensive and provides employment to hundreds of thousands to millions of people in countries, including Afghanistan and Colombia, respectively (Felbab-Brown, 2012; see also Corpora, 2006).

The truth is, despite the high-level academic debate and the excellent research already published on the nexus between crime and terrorism, we still know very little about how strong this convergence might be. Even if it were widely accepted that a nexus exists, there is far from anything resembling consensus on its implications and ways to address them. While it is important to think through the strategic implications of a nexus, the more pragmatic approach might be to ask the question, "Does the illicit trade in illegal narcotics fund terrorism?" The clear answer is "yes."

A study by Oftedal (2015) of the Norwegian Defence Research Establishment (FFI) looked at data on the financing of 40 jihadi cells that have plotted attacks against European targets between 1994 and 2013 and concluded that the second most common method of funding for these attacks (in 28% of cases analysed) was illicit trade (which included drugs, cars, forged documents and weapons). Three-quarters of the plots cost less than USD 10 000 to plan. The 2004 Madrid train bombings killed 191 people and injured another 1 600 in an attack financed primarily by the leader of a small, yet effective drug-trafficking network that smuggled hash from Morocco and ecstasy from the Netherlands to Spain (Williams, 2008b). Relatively small amounts of money could just as easily be used to plot and conduct a terrorist attack in Western Europe similar to the *Charlie Hebdo* attacks in Paris in January 2015 or the Copenhagen attacks the following month. And while the *Charlie Hebdo* attack was allegedly funded with USD 20 000 from Al Qaida in the Arabian Peninsula, it is easy to see why some terrorists planning similar types of attacks would follow the Madrid model – small sums of money collected over time through the use of somewhat banal criminal activities like drug dealing, various types of fraud and petty theft (Schmidt, Mazzetti and Callimachi, 2015).

Indeed, where a concept of a nexus between crime and terrorism might be most interesting is the emerging profile of small-time crook to terrorist, a profile that is now emerging in many of the jihadist attacks and plots recently targeting Europe. As Williams and Hoffman note (n.d.), "with continued politicisation and radicalisation of organised crime, instances of transformation from criminal or drug trafficker to terrorist and from criminal enterprise to terrorist organisation will become more frequent." Besides the 2004 Madrid cell, proceeds from drug trafficking are also suspected of funding another plot against Madrid aimed at the National Court (2004), the Hofstad Group in the Netherlands (2004), a Swedish cell (2010), Mohammed Merah's rampage (2012) and an attack at a kosher supermarket in Paris (2012) (Oftedal, 2015). Involvement in crime, especially drug trafficking, can lead to prison, which in some cases serves as an incubator for religious radicalisation and violent extremism. As criminals become radicalised, this potentially increases involvement in the plotting and execution of terrorist attacks.[15]

Figure 6.3. Relationship between nexus components



Source: Author

Determining the extent to which there is a nexus between transnational crime and insurgency is difficult not only due to conceptual confusion but also because data sources are poor. Unlike political violence, which traditionally pits politico-military groups against the state in a contest over the control of territory, criminal violence prioritises the pursuit of illicit profit (Stepanova, 2010). Still, traditional distinctions between criminal violence and political violence are becoming more difficult to discern in conflict settings, particularly in failed states. In conflict zones, a range of violent non-state actors fight for control over power and resources in an attempt to maximise the opportunities afforded by the war economy. Accordingly, the distinction between criminal violence and political violence is important, if not blurry, as criminal violence and illicit economic activities can only be properly addressed once a state has regained some semblance of the rule of law, and where it is able to provide a modicum of stability, at least in the short to medium term. The concluding section offers an analysis of existing policy responses and their viability.

Policy responses

In evaluating existing public policies designed and implemented to counter the illicit trade in illegal narcotics, how do states know what policies are effective and what policies are ineffective? Many supply-side policies including eradication, alternative crop substitution and interdiction have been highly criticised as being ineffective, while a growing chorus of voices now trumpet less punitive policies including decriminalisation, public health awareness and education, treatment and other harm reduction-based policies

(although these, too, have received their fair share of criticism).[16] Table 6.1 below offers a broad overview of several existing public policies to combat the illicit trade in illegal narcotics.

Table 6.1. Overview of existing public policies to combat the illicit trade in illegal narcotics

Stage of the process	Public policy	Measure of effectiveness	Costs to the state	Challenges to policy
Production	Eradication	Hectares eradicated	Loss of political capital	Lack of will and/or capacity, marginalisation of illicit crop farmers, gains only temporary, dangers posed by militants potential human rights abuses, switch to synthetics
Production	Crop substitution	Cultivation figures	Risk of backlash	Resistance from farmers, coercion of criminals/insurgents
Transit	Interdiction	Amount of drugs seized, couriers apprehended	Resources needed for border security, law enforcement and customs training and enforcement	Volume of trade, success increases value of drugs but not cost of production, agencies on defense not offense, traffickers accept major losses and still profit 'balloon effect'
Transit	Surveillance	Networks disrupted Organizations dismantled	Resources, Investment in emerging technologies	Adaptation of networks atomization of networks, Traffickers' toolkit (concealment, deception, corruption,) dilemma of intel gain/loss
Consumption	Incarceration	#s locked up	Human capital	Inadequate detention capacity
Consumption	Treatment	Overall # of users, recidivism rate	Financial burden	Room at treatment facilities
Consumption	Decriminalization/ quasi-legalisation	Overall # of users Levels of violent crime	Diplomatic issues with other states opposed to this policy, possible increase in # of drug users	Domestic political opposition

In the case of certain supply-side policies like eradications, as Felbab-Brown (2014) has noted, "There is not one single case over the past five decades where eradication policies succeeded in bankrupting or defeating belligerents." Moreover, as Reuter (2014) has observed in his research on the mobility of drug trafficking, interdiction policies often fall victim to "the balloon effect hypothesis", where the result of authorities getting tough on trafficking is merely the relocation of the trafficking activity to another location, resulting in high costs to the state, but nothing more than a temporary inconvenience to the DTO.

As a result, states should be more frugal in how they allocate their assets (already lean, in many cases). This means crafting tailored deterrence strategies based on selective targeting and sequential interdiction, moving away from random non-strategic raids and toward "strategic selectivity", and marshalling resources that can be used to anticipate where illicit flows might shift next, in response to ongoing efforts to attack the supply and trans-shipment networks (Felbab-Brown, 2014).

Metrics and measures of effectiveness

No analysis of data relevancy would be complete without even just a brief discussion of the metrics and measures of effectiveness used in the field. Here, there is no conventional wisdom or universally accepted "silver bullet". For example, while the disruption and dismantling of drug trafficking organisations seem like a sound measure and worthwhile goal, is it more preferable to contend with several major cartels or alternatively, several hundred *cartelitos*? Similarly, does the failure to detect illicit flows mean they are not there? Are drug seizures the result of luck, skilled work by police and law enforcement, amateur traffickers or some combination of all of these? As Walsh (Andreas, 2010) points out, "larger and more frequent drug seizures are often presented as evidence of policy success, and lauded as a testament to more vigorous enforcement, but they may simply reflect increased drug production and trafficking. Or they may be the result of more enforcement and more drugs in circulation – the seizure statistics themselves provide no clue." The "Catch 22" of counter-narcotics is that agencies may be confiscating more drugs because they are benefiting from more resources and getting better at their jobs, or they may simply be confiscating more drugs because a greater volume is flowing through the system (Andreas, 2010). In short, increased numbers of arrests may simply mean more violators, rather than more effective enforcement.

Conclusion

Some of the pitfalls of research in this area could be avoided if researchers could resolve the problem of establishing and maintaining contacts to relevant data owners, who could potentially be activated within the time constraints of a "normal" funded research project. This issue is more severe in some countries as opposed to others, but one initiative could be working toward an accepted framework that could facilitate something closer to consistency between requests for data access and the granting of access to official data.

An encouraging trend in the closely related field of criminal justice science over the past decade is the focus on evaluation as an important methodology. Both states and non-governmental organisations that routinely conduct successful evaluation respect the utility of research and have attempted to ingrain an appreciation for evaluation into their cultures. As such, they dedicate substantial resources to collecting relevant data and conducting evaluations. Moreover, some governments have adopted a formal philosophy of supporting "evidence-based strategies", which hinges on the reporting, classification and measurement of data (Edwards and Gill, 2003).

Finally, the state of academic research on illicit markets could be improved through a whole of government approach to compiling cross-national databases on the relevant data. This stresses the need for both a "top-down" and "bottom up" approach to this issue, from local to state to federal agencies working toward a common goal instead of on an *ad hoc* basis, or worse, at cross-purposes. Admittedly, the task is daunting – it requires the co-ordination of the various intergovernmental agencies in law enforcement, crime prevention and criminal justice to co-operate and collaborate. Moreover, enforcement is not the only approach to deterring or reducing illicit trade in narcotics. Economic development that provides alternatives to criminal enterprise should be considered as part of broader government strategies to address illicit trade in all its forms (Schultze-Kraft, 2014).

The endemic criminal violence that results from every step of the drug trafficking value chain erodes state institutions and is often difficult to reverse. The international community must figure out a way to deal with the spill over violence and the human security implications, including refugee flows, addiction, disease, corruption and general instability generated by the illicit trade in illegal narcotics. Where criminal violence should be considered acutely problematic is in cases where it merges with traditional forms of political violence, like terrorism and insurgency. In these cases, criminality (and the violence that often accompanies criminality) helps fund the insurgency, and groups can morph over time into criminal-insurgent hybrids. Moreover, war profiteers disguised as rebels seek to enact strategies that will serve to prolong the conflict as a means of continuing to reap the economic benefits, as in conflict zones throughout the globe, from the jungles of Colombia to the mountains of Afghanistan.

The clearest implication for international security policy is the need to become more effective at building the capacity of states to combat transnational organised crime and criminal violence. This can be accomplished through focusing security co-operation efforts in vulnerable countries on ministerial capacity, institution building and defence reform, all of which are foundational to other forms of capacity, like border control and anti-corruption efforts.

Furthermore, ministerial capacity can be improved even when the partner nation's absorptive capacity is generally low. This is a self-reinforcing cycle, since ministerial capacity building can itself improve a partner's absorptive capacity, thus enabling future capacity building in other areas. With sufficient ministerial capacity, countries plagued by high levels of illicit trade and criminal violence will be better prepared to plan and integrate strategy and operations against the range of threats arrayed against them. States need to be better prepared to exploit potential vulnerabilities. In cases where terrorists or insurgents are co-operating with criminals, this opens the door for the possibility of infiltration by law enforcement and intelligence agents. Along these same lines, states should seek to develop counter-narratives that discredit the ideological appeal of terrorists and insurgents by emphasising their linkage to common criminality.[17]

Notes

[1] In private correspondence with a number of the world's recognised experts in the field of transnational crime and international security, each of these individuals had a similar response, including Phil Williams, Louise Shelley, Peters, G., Mark Galeotti and Christopher Corpora.

[2] These categories were selected because after a review of the literature on illicit narcotics, these drugs in particular were deemed to constitute the vast majority of the market and contribute widely to the most far-reaching social, political, economic, public health, environmental and other ills plaguing source, production, transit and destination countries. See UNODC World Drug Report 2014, Vienna: United Nations Office on Drugs and Crime; European Drug Report: Trends and Developments, European Monitoring Centre for Drugs and Drug Addiction, 2014; and the United States Department of State International Narcotics Control Strategy Report (INCSR), Bureau for International Narcotics and Law Enforcement Affairs, Volume I: Drug and Chemical Control, 2014.

[3] The literature on transnational organised crime often uses the terms *smuggling* and *trafficking* interchangeably, except for human trafficking and human smuggling, where the first is a crime against the person and the second is a crime against the state. For the sake of clarity and precision, this research proceeds from the notion that smuggling is about the crossing of borders, while trafficking refers to the broader process of moving illicit goods. The author is thankful to Phil Williams for this observation.

[4] Much of this section has been informed by an unpublished paper on cocaine trafficking by Phil Williams, produced for the George C. Marshall Center and shared with the author.

[5] The two most dangerous gangs in El Salvador are Mara Salvatrucha (MS-13) and Calle 18, although, to date, only the former has been designated as a transnational criminal organisation (TCO) by the US government. See Douglas Farah and Pamela Phillip, *Central American Gangs and Transnational Criminal Organizations: The Changing Relationships in a Time of Turmoil,* International Strategy and Assessment Center, 2013, pp.23-29.

[6] Los Zetas were previously the Gulf cartel's enforcers, have split off and formed a separate drug trafficking organisation and turned against their former sponsors.

[7] *Transportistas* are locals who possess the best intelligence on transportation routes, topography and ongoing law enforcement operations and who are known to provide secure transport services for trafficking gangs dealing in illicit goods (e.g. drugs, weapons, humans).

[8] The Kaibilies, like the Zetas, are special forces soldiers specialising in jungle warfare and counterinsurgency operations.

[9] Much of this section has been informed by an unpublished paper on heroin trafficking by Phil Williams, produced for the George C. Marshall Center and shared with the author.

[10] A UNDP Human Development Report listed Sierra Leone's adult literacy rate at 13.3%, the lowest of the 160 countries in the report. UNDP, Human Development Report 1991: Financing Human Development, New York: Oxford University Press, 1991, p.121.

[11] One exception was when Taliban fighters destroyed fields of opium poppies in eastern Afghanistan, the first time since 2001. Emma Graham-Harrison, "Taliban Destroy Poppy Fields in Surprise Clampdown on Afghan Opium Growers," *The Guardian,* May 20, 2012.

[12] The CIA and the DIA estimate that the Taliban receives USD 70 million a year from the drug trade. According to the former US director of national intelligence Dennis Blair, the Taliban made USD 100 million from the drug trade in 2008. The DEA puts the number at around USD 300 million, while Peters, G. asserts that the number is much higher, probably USD 500 million. For more on the role of narcotics in Afghanistan's economy, see: (Goodhand, 2008), (Rubin, 2004),

[13] For a discussion of active versus passive support in terrorism and insurgency, see Christopher Paul, "As a Fish Swims in the Sea: Relationships Between Factors Contributing to Support for Terrorist or Insurgent Groups," *Studies in Conflict and Terrorism* 33, no. 6, (2010): 488-510.

[14] David Mansfield quoted in *Counter-Narcotics in Afghanistan 2012*, Civil-Military Fusion Center, August 2012, p33, http://reliefweb.int/sites/reliefweb.int/files/resources/CFC_Afghanistan-Counter-Narcotics-Volume_Aug2012.pdf

[15] This is not to suggest that jail or prison is the only factor in the radicalisation process. To be sure, this analysis is not meant to be causal, merely a narrative of how some cases unfold. A robust discussion of the causes of radicalisation is beyond the scope of this paper, but suffice to say it results from a combination of economic, social, political, religious and cultural factors/variables including wide-ranging grievances.

[16] For criticism of certain education programs as ineffective, see http://files.eric.ed.gov/fulltext/ED423321.pdf.

[17] The author is thankful to Phil Williams for this observation.

References

Acharya, A., S. Bukhari and S. Sulaiman. (2009), "Making Money in the Mayhem: Funding Taliban Insurrection in the Tribal Areas of Pakistan," *Studies in Conflict & Terrorism,* Vol. 32/2, pp. 104.

Andreas, P. (2010), "The politics of measuring illicit flows and policy effectiveness," in P. Andreas and Kelly M. Greenhill (eds.), *Sex, Drugs, and Body Counts: The Politics of Numbers in Global Crime and Conflict,* Cornell University Press, Ithaca, pp. 25.

Andreas, P. (2008), *Blue Helmets and Black Markets: The Business of Survival in the Siege of Sarajevo*, Cornell University Press, Ithaca, pp. 135-137.

Andreas, P. (2004), "The clandestine political economy of war and peace in Bosnia," *International Studies Quarterly,* Vol. 48, No. 1, pp. 29-51.

Andreas, P. and J. Wallman (2009), "Illicit Markets and Violence: What is the Relationship?" in *Crime, Law & Social Change,* Vol. 52/3, pp. 225-229.

Andreas, P. and K.M. Greenhill (2010), "Introduction: The politics of numbers," in P. Andreas and Kelly M. Greenhill (eds.), *Sex, Drugs, and Body Counts: The Politics of Numbers in Global Crime and Conflict,* Cornell University Press, Ithaca, pp. 5.

Associated Press (2008) *Italian commission describes rise of 'Ndrangheta crime syndicate in report*, February 23, 2008.

Bacon, E. (2007), "Balkan Trafficking in Historical Perspective," in Kimberley L. Thachuk, *Transnational Threats: Smuggling and Trafficking in Arms, Drugs, and Human Life,* Praeger Security International, Westport, CT, pp. 81.

Bosworth, J. (2011), "Honduras: Organized Crime Gained Amid Political Crisis," in Cynthia J. Arnson and Eric L. Olson (eds.), *Organized Crime in Central America: The Northern Triangle*, Woodrow Wilson International Center for Scholars Reports on the Americas, No.29, pp. 63.

Brahimi, A. (2010), "The Taliban's Evolving Ideology", *LSE Global Governance Working Paper*, 02/2010, p. 9.

Brown, D. (2013), *The Challenge of Drug Trafficking to Democratic Governance and Human Security in West Africa*, United States Army War College Strategic Studies Institute (SSI) Letort Paper, Carlisle Barracks, Pennsylvania, p. 18.

Bunker, R. and J. Sullivan (2010), "Cartel Evolution Revisited: Third Phase Cartel Potentials and Alternative Futures in Mexico," *Small Wars & Insurgencies*, Vol. 21/1, pp. 30-54.

Caunic, I. et al. (2013), "European Union: Destination and Transit Area for Cocaine Trafficking," *Revista Romana de Geografie Politica Year*, Vol.13/2, pp.149-156, http://rrgp.uoradea.ro/art/2011-2/03-RRGP-222-Caunic+.pdf.

Cawley, M. (2013), "Are Northern Triangle Countries 'narco-states'?" in Steven Dudley and Jeremy McDermott, *Insight Crime Game Changers 2013*, InSight Crime Report, p.121.

CFC (2012), *Counter-Narcotics in Afghanistan 2012*, Civil-Military Fusion Center, p. 33, http://reliefweb.int/sites/reliefweb.int/files/resources/CFC_Afghanistan-Counter-Narcotics-Volume_Aug2012.pdf.

Cockayne, J. (2012) "Africa and the War on Drugs: The West African Cocaine Trade is Not Just Business As Usual," *African Arguments*, October 19, 2012, http://africanarguments.org/2012/10/19/africa-and-the-war-on-drugs-the-west-african-cocaine-trade-is-not-just-business-as-usual-by-james-cockayne/

Cockayne, J. and P. Williams (2009), *The Invisible Tide: Towards an International Strategy to Deal with Drug Trafficking Through West Africa*, International Peace Institute, New York, pp. 4.

Corcoran, P. (2011), *Italy's Ndrangheta Mafia: A Powerful Ally for the Zetas*, InSight Crime, www.insightcrime.org/news-analysis/italys-ndrangheta-mafia-a-powerful-ally-for-the-zetas.

Corpora, C. (2006), "Times, They Have Changed: Terrorism and the Asymmetric Threat Complex," in Robert W. Orttung and Andrey Makarychev, (eds.), *National Counter-Terrorism Strategies: Legal, Institutional, and Public Policy Dimensions in the US, UK, France, Turkey and Russia*, IOS Press, 2006, pp.69-78.

Cornell, S. (2007a), "Drug Smuggling in Central Eurasia," in Kimberley L. Thachuk, *Transnational Threats: Smuggling and Trafficking in Arms, Drugs, and Human Life*, Praeger Security International, Westport, CT, pp.101.

Cornell, S. (2007b), "Narcotics and Armed Conflict: Interaction and Implications," *Studies in Conflict & Terrorism*, Vol. 30/3, pp. 207-227.

Cornell, S. (2005), "The Interaction of Narcotics and Armed Conflict," *Journal of Peace Research*, Vol.42/6, pp. 751-760.

Dishman, C. (2005), "The Leaderless Nexus: When Crime and Terror Converge," *Studies in Conflict & Terrorism*, Vol. 28/3, pp. 237-252.

Dishman, C. (2001), "Terrorism, Crime and Transformation," *Studies in Conflict & Terrorism*, Vol. 24/1, pp. 43-58.

Dobbins J. et al. (2008), *Europe's Role in Nation Building: From the Balkans to the Congo*, RAND Corp, Santa Monica, p. 149.

Donais, T. (2003), "The Political Economy of Stalemate: Organised Crime, Corruption and Economic Deformation in Post-Dayton Bosnia," *Conflict, Security, & Development*, Vol. 3/3, p. 363.

Dudley, S. (2012), *Transnational Crime in Mexico and Central America: Its Evolution and Role in International Migration*, The Woodrow Wilson Center Regional Migration Study Group, Migration Policy Institute, Washington DC.

Dudley, S. (2011), "The Zetas in Guatemala," *InSight Crime Report*, InSight Crime, Medellin, Colombia.

Edwards, A. and P. Gill (2003), *Transnational Organized Crime: Perspectives on Global Security*, Routledge, London.

Ellis, S. (2012), *Africa and the War on Drugs: A Review by Stephen Ellis*, African Arguments, http://africanarguments.org/2012/10/22/africa-and-the-war-on-drugs-a-review-by-stephen-ellis/.

Ellis, S. (2009), "West Africa's International Drug Trade," *African Affairs*, Vol. 108/431, pp.193.

Espach, R. et al. (2011), *Criminal Organizations and Illicit Trafficking in Guatemala's Border Communities*, Center for Naval Analysis, pp.18-19.

European Monitoring Centre for Drugs and Drug Addiction (2014), *European Drug Report: Trends and Developments*, www.emcdda.europa.eu/publications/edr/trends-developments/2014.

Europol (2011), *Organized Crime Threat Assessment*, pp.13-14, Europol, The Hague, www.europol.europa.eu/sites/default/files/publications/octa_2011_1.pdf.

Farah, D. and P. Phillip (2013), *Central American Gangs and Transnational Criminal Organizations: The Changing Relationships in a Time of Turmoil*, International Strategy and Assessment Center, p.5.

Felbab-Brown, V. (2014), "Improving Supply Side Policies," in *Ending the Drug Wars*, London School of Economics, Report of the LSE Expert Group on the Economics of Drug Policy, p. 43.

Felbab-Brown, V. (2012), "Fighting the Nexus of Organized Crime and Violent Conflict While Enhancing Human Security", in Phil Williams and V. Felbab-Brown, *Drug Trafficking, Violence, and Instability*, US Army War College Strategic Studies Institute, Carlisle Barracks, PA, p. 13.

Felbab-Brown, V. (2010), *Shooting Up: Counterinsurgency and the War on Drugs*, Brookings Institution Press, Washington DC.

Felbab-Brown, V. (2006), "Kicking the Opium Habit? Afghanistan's Drug Economy and Politics since the 1980s", *Conflict, Security, and Development*, Vol.6/2, pp. 127-149.

Garzon Vergara, J. (2012), *The Rebellion of Criminal Networks: Organized Crime in Latin America and the Dynamics of Change*, Woodrow Wilson International Center for Scholars, Washington DC. pp. 2.

Garzon Vergara, J. (2008), *Mafia & Co.: The Criminal Networks in Mexico, Brazil, and Colombia*, Woodrow Wilson International Center for Scholars Latin America Program, Washington DC.

Gilmore, W.C. (1999), *Dirty Money: The Evolution of Money Laundering*, Council of Europe Publishing, Belgium, pp.17.

Giustozzi (2010), *Negotiating with the Taliban*, The Century Foundation, New York, pp.12-13.

Glenny M. (2008), *McMafia: A Journey Through the Global Criminal Underworld*, Vintage, New York, pp. 23.

Goodhand, J. (2008), "Corrupting or Consolidating the Peace? The Drugs Economy and Post-conflict Peacebuilding in Afghanistan," *International Peacekeeping*, Vol.15/3, pp. 405-423.

Graham-Harrison, E. (2012), *Taliban Destroy Poppy Fields in Surprise Clampdown on Afghan Opium Growers*, The Guardian, London, May 20, 2012, www.theguardian.com/world/2012/may/20/taliban-destroy-poppy-afghan-opium.

Grant, A. (2007), "Smuggling and Trafficking in Africa," in Kimberley L. Thachuk, *Transnational Threats: Smuggling and Trafficking in Arms, Drugs, and Human Life*, Praeger Security International, Westport, CT, p. 117.

Greenhill, K. (2009), "Kleptocractic Independence," in Robert I. Rotberg (ed.), *Corruption, Global Security, and World Order*, World Peace Foundation, Cambridge, p. 100.

Hawley, C. (2010), "US: Gangs buy jets for trans-Atlantic coke flights," *USA Today*, November 16, 2010, http://usatoday30.usatoday.com/travel/flights/2010-11-16-drug-flights-used-aircraft_N.htm.

Herbst, J. (2000), *States and Power in Africa: Comparative Lessons in Authority and Control*, Princeton University Press, Princeton, New Jersey, pp. 131-133.

Hutchinson, S. and P. O'Malley (2007), "A Crime-Terror Nexus? Thinking on some of the Links Between Terrorism and Criminality", *Studies in Conflict & Terrorism*, Vol. 30/12, pp. 1095-1107.

International Crisis Group (2011), *Guatemala: Drug Trafficking and Violence*, Latin America Report, International Crisis Group, Brussels, pp. 3-4.

INCB (2014), *Report of the International Narcotics Control Board for 2014*, International Narcotics Control Board, Vienna, pp. 44-48.

INCB (2007), "Annual Report of the International Narcotics Control Board for 2007, International Narcotics Control Board, Vienna, p. 56, www.incb.org/documents/Publications/AnnualReports/AR2007/AR_07_English.pdf.

Jackson, R. (1990), *Quasi-States: Sovereignty, International Relations, and the Third World*, Cambridge University Press, New York, p. 21.

Koppel, T. and A. Szekely (2002), "Transnational Organized Crime and Conflict in the Balkans," in Mats Berdal and Monica Serrano, *Transnational Organized Crime & International Security: Business as Usual?*, Lynne Rienner, Boulder, p. 132.

Lacher, W. (2012), "Organized Crime and Conflict in the Sahel-Sahara Region," Carnegie Endowment for International Peace, September 2012, http://carnegieendowment.org/files/sahel_sahara.pdf.

Makarenko, T. (2004), "The Crime-Terror Continuum: Tracing the Interplay between Transnational Organized Crime and Terrorism", *Global Crime*, Vol. 6/1, pp. 129-145.

Mazzitelli, A. (2007), "Transnational Organized Crime in West Africa: The Additional Challenge," *International Affairs*, Vol.83/6, pp. 1071-1090.

McGuire, P. (2010), "Narcotics Trafficking in West Africa: A Governance Challenge", *The Pardee Papers*, No. 9, Frederick S. Pardee Center for the Study of the Longer Range Future, Boston University.

Messner. S. (2003), "Understanding Cross-National Variation in Criminal Violence", in Wilhelm Heitmeyer and John Hagan (eds.), *International Handbook of Violence Research*, Vol. 1, Kluwer, Dordrecht.

Millett, R. (2008), "Weak States and Porous Borders: Smuggling Along the Andean Ridge," in Kimberley L. Thachuk, *Transnational Threats: Smuggling and Trafficking in Arms, Drugs, and Human Life*, Praeger Security International, Westport.

Miraglia, P., R. Ochoa and I. Briscoe (2012), "Transnational Organised Crime and Fragile States", *OECD Development Co-operation Working Papers*, No. 5, OECD Publishing, Paris, http://dx.doi.org/10.1787/5k49dfg88s40-en.

Navear, L. (2012), *As Brazil Booms, So Do New Drug Routes*, New American Media, San Francisco.

Naylor R.T. (2004), *Wages of Crime: Black Markets, Illegal Finance and the Underground Economy*, Cornell University Press, Ithaca, p. 12.

Nossiter, A. (2012), *Leader Ousted, Nation is Now a Drug Haven*, New York Times, November 1, 2012, www.nytimes.com/2012/11/02/world/africa/guinea-bissau-after-coup-is-drug-trafficking-haven.html?pagewanted=all.

O'Kane, M. (1993), *A Piece of the Action*, Ottawa Citizen, 28 August 1993.

Oftedal, E. (2015), *The financing of jihadi terrorist cells in Europe*, Norwegian Defence Research Establishment, p. 16.

Ostrom E. et al. (2000), *Rules, Games, and Common-Pool Resources*, University of Michigan Press, Ann Arbor.

Palma, O. (2015), "Transnational Networks of Insurgency and Crime: Explaining the Spread of Commercial Insurgencies Beyond State Borders," *Small Wars & Insurgencies*, Vol.26/3, pp. 476-496.

Paoli, L. et al. (2009), *The World Heroin Market: Can Supply be Cut?*, Oxford University Press, Oxford.

Paul, C. (2010), "As a Fish Swims in the Sea: Relationships Between Factors Contributing to Support for Terrorist or Insurgent Groups", *Studies in Conflict & Terrorism*, Vol. 33/6.

Patrick, S. (2006), "Weak states and global threats: fact or fiction?", *Washington Quarterly*, Vol. 29/2, p. 25.

Peters, G. (2012), *Haqqani Network Financing: The Evolution of an Industry*, Combating Terrorism Center, Harmony Program, West Point, NY, p. 2.

Peters, G. (2010), *Crime and Insurgency in the Tribal Areas of Afghanistan and Pakistan*, Combating Terrorism Center, Harmony Program, West Point, NY, p. 24, www.ctc.usma.edu.

Peters, G. (2009), *Seeds of Terror: How Drugs, Thugs, and Crime Are Reshaping the Afghan War*, St Martin's, New York.

Picard, J. (2013), "Can we estimate the global scale and impact of illicit trade?" in Michael Miklaucic and Jacqueline Brewer (eds.), *Convergence: Illicit Networks and National Security in the Age of Globalization*, National Defense University Press, Washington DC, p. 38.

Raghavan, S. (2015), "As the U.S. Mission Winds Down, Afghan Insurgency Grows More Complex," *Washington Post,* 13 February 2015.

Ramsey, G. (2010), *Ruta 34: Argentina's 'White Road' of Cocaine Smuggling*, InSight Crime, Medellin, Colombia.

Rawlinson, P. (1999), "Mafia, Methodology and 'Alien' Culture," in R.D. Kind and E. Wincup (eds.), *Doing Research on Crime and Justice,* Oxford University Press, Oxford.

Reno, W. (2010), "Persistent Insurgencies and Warlords: Who is Nasty, Who is Nice, and Why?" in Anne L. Clunan and Harold A. Trinkunas, *Ungoverned Spaces: Alternatives to State Authority in an Era of Softened Sovereignty,* Stanford University Press, Stanford, p. 67.

Reno, W. (2009), "Understanding Criminality in West African Conflicts", *International Peacekeeping,* Vol. 16/1, p. 55.

Reno, W. (2003), "Sierra Leone: Warfare in a Post-State Society," in Robert I. Rotberg, ed., *State Failure and State Weakness in a Time of Terror,* The World Peace Foundation, Cambridge, p. 91.

Reno, W. (1998), *Warlord Politics and African States*, Boulder, Lynne Rienner Boulder, p. 126.

Reuter, P. (2014), "The Mobility of Drug Trafficking," in *Ending the Drug Wars*, London School of Economics, Report of the LSE Expert Group on the Economics of Drug Policy, p. 33.

Reuter, P. and V. Greenfield (2001), "Measuring Global Drug Markets: How Good Are the Numbers and Why Should We Care About Them?", *World Economics*, Vol. 2/4, pp. 159-173.

RILO WE (2013), *Review of Drug Seizures at Airports 2013*, Pompidou Group of the Council of Europe, Co-operation Group to Combat Drug Abuse and Illicit trafficking in Drugs, Strasbourg.

Rodgers, D. and R. Muggah (2009), "Gangs as Non-State Armed Groups: The Central American Case", *Contemporary Security Policy,* Issue 30, p. 302.

Rollins, J. and S. Wyler (2013), *Terrorism and Transnational Crime: Foreign Policy Issues for Congress*, Congressional Research Service, Washington DC, p. 10.

Rubin, B.R. (2004) *Road to Ruin: Afghanistan's Booming Opium Industry*, Center on International Cooperation.

Rubin, B.R. (2000), "The Political Economy of War and Peace in Afghanistan," *World Development,* Vol. 28/10, pp. 1789-1803.

Schmitt, E., M. Mazzetti and R. Callimachi (2015), "Disputed Claims Over Qaeda Role in Paris Attacks," *New York Times,* 14 January 2015.

Schultze-Kraft (2014), *Getting Real About an Illicit 'External Stressor': Transnational Cocaine Trafficking through West Africa*, Institute of Development Studies, Brighton.

Shelley, L. (2014), *Dirty Entanglements: Corruption, Crime, and Terrorism*, Cambridge University Press, New York.

Singer, P. (2000), "Bosnia 2000: Phoenix of Flames?", *World Policy Journal*, Vol. 17/1, p. 32.

Stake, R.E. (1995), *The Art of Case Study Research,* Sage Publications, Thousand Oaks, p. 11.

Stepanova, E. (2010), "Armed Conflict, Crime and Criminal Violence," *SIPRI Yearbook 2010: Armaments, Disarmament and International Security*, SIPRI, Sweden.

Thoumi, F. (2005), "The Numbers Game: Let's All Guess the Size of the Illegal Drug Industry!", *Journal of Drug Issues*, pp. 191.

Todorov, B. et al. (1998), *Corruption and Illegal Trafficking: Monitoring and Prevention, Assessment Methodologies and Models of Counteracting Transborder Crime,* Center for the Study of Democracy, p. 29.

Tversky, A. and D. Kahneman (1974), "Judgment Under Uncertainty: Heuristics and Biases", *Science,* Vol. 185/4157, pp. 1124-1131.

United Nations Centre for International Crime Prevention (2000), "Assessing Transnational Organized Crime: Results of a Pilot Survey of 40 Selected Organized Criminal Groups in 16 Countries", *Trends in Organized Crime,* Vol.6/2, pp. 44-92.

UNDP (1991), *Human Development Report 1991: Financing Human Development*, Oxford University Press, New York, p. 121.

United States Department of State (2014), *International Narcotics Control Strategy Report (INCSR),* Bureau for International Narcotics and Law Enforcement Affairs, Volume I: Drug and Chemical Control, Washington D.C.

UNODC (2014), *United Nations Office on Drugs and Crime World Drug Report 2014*, UNODC, Vienna, https://info.publicintelligence.net/UNODC-WorldDrugReport-2014.pdf.

UNODC (2013), *Afghanistan Opium Survey 2013: Summary Findings*, UNODC, Vienna, p.11.

UNODC (2012), *Transnational Organized Crime in Central America and the Caribbean: A Threat Assessment,* UNODC, Vienna.

UNODC (2011), *The Global Afghan Opium Trade: A Threat Assessment*, UNODC, Vienna, p. 56.

UNODC (2010), *Drug Use in Afghanistan 2009 Survey: Executive Summary*, UNODC, Vienna, p. 5.

UNODC (2009), *Addiction, Crime and Insurgency: The Transnational Threat of Afghan Opium*, UNODC, Vienna, p. 2.

UNODC (2007), *Cocaine Trafficking in West Africa: The Threat to Stability and Development*, UNODC, Vienna.

UNODC (1998), *Economic and Social Consequences of Drug Abuse and Illicit Trafficking*, UNODC, Vienna, www.unodc.org/pdf/technical_series_1998-01-01_1.pdf.

USAID (2006), *Central America and Mexico Gang Assessment*, USAID Bureaus for Latin American and Caribbean Affairs Office of Regional Sustainable Development.

Vander Beken, T. (2004), "Risky Business: A Risk-Based Methodology to Measure Organized Crime", *Crime, Law & Social Change*, Vol.41/5, pp. 471-516.

von Lampe, K. (2012), "Transnational Organized Crime Challenges for Future Research", *Crime, Law & Social Change*, Vol.58/2, pp. 179-194.

von Lampe, K. (2009), "The Study of Organised Crime: An Assessment of the State of Affairs", *Organised Crime: Norms, Markets, Regulation and Research*, UNIPUB, Oslo.

von Lampe, K. (2006), "The Interdisciplinary Dimensions of the Study of Organized Crime," *Trends in Organized Crime*, Vol.9/, Iss.3, 2006. pp. 77-95.

Wannenburg, G. (2005), "Organised Crime in West Africa," *African Security Review*, Vol.14/4.

Wilkinson, T. (2007), *Little-known mafia is cocaine 'king': the 'Ndrangheta of Italy's Calabria region rules Europe drug trade*, Los Angeles Times, http://articles.latimes.com/2007/dec/27/world/fg-mafia27.

Williams, P. (2012), "Insurgencies and Organized Crime," in P. Williams and V. Felbab-Brown, *Drug Trafficking, Violence, and Instability*, US Army War College Strategic Studies Institute, Carlisle Barracks, PA, p. 45.

Williams, P. (2011), *Case Study: Cocaine Trafficking to Europe*, unpublished paper produced for the George C. Marshall Center.

Williams, P. (2008a), "Terrorist Financing and Organized Crime: Nexus, Appropriation or Transformation?" in Thomas Biersteker and Susan Eckert (eds.), *Countering the Financing of Terrorism*, Routledge, London, pp. 126-149.

Williams, P. (2008b), "In Cold Blood: The Madrid Bombings", *Perspectives on Terrorism*, pp. 22.

Williams, P. (n.d.), "Case Study: Cocaine Trafficking to Europe," unpublished paper produced for the George C. Marshall Center, citing Malin Georgiev, "Within EU Bulgaria is Main Point of Entry for Cocaine from Latin America" Sofia Mediapool.bg May 5, 2011 Open Source Center, EUP20110505065005.

Williams, P. and J.T. Hoffman (n.d.), *Drug trafficking and terrorism: Devil's brew or caffeinated soda*, unpublished paper.

World Bank (2011), *Crime and Violence in Central America: A Development Challenge*, World Bank Sustainable Development Department and Poverty Reduction and Economic Management Unit, Washington DC, pp. 11-21.

Wyler, L.S. and N. Cook (2009), *Illegal Drug Trade in Africa: Trends and US Policy*, Congressional Research Service, Washington DC, p. 3.

Yin, R. (1989), *Case Study Research: Design and Methods*, Sage Publications, Thousand Oaks, p. 13.

Chapter 7

The size, impacts and drivers of illicit trade in alcohol

By Paul Skehan and Ignacio Sanchez* and Lance Hastings**

This chapter presents an assessment by industry stakeholders of the illicit trade in alcohol with a focus on spirits and beer. Transnational criminal networks profit from trafficking and illegal trade in alcoholic beverages, whether by evading the payment of duty on goods or dealing in otherwise unbranded products. It is estimated that billions of dollars from these activities flow through the global economy each year, distorting local economies, diminishing government and legitimate business revenues, and in some cases posing a serious health risk to consumers.

** European Spirits ** SAB Miller*

The opinions expressed and arguments employed in this chapter are those of the authors and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

This chapter and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

1. Note by Turkey:
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

The immediate general effects of illicit trade include major social ills such as crime and environmental degradation, and over the longer term, the impact runs much deeper, undermining the rule of law, fuelling corruption, and reducing government revenues and competitiveness. Stakeholders in the alcohol industry are particularly concerned by the impact of illicit alcohol on consumers' health and on the economic sustainability of legal companies. As a consequence, illicit trade in alcohol can be said to put consumers' health at risk, reduce governments' revenues and undermine the rule of law, jeopardise the economic sustainability of private companies in the alcohol sector and its supply chain and disadvantage the population in general through the loss of jobs and deterioration of the environment.

Illicit trade in alcohol – definitions

Before analysing the scope of the illicit alcohol trade, it is worth establishing common terms of reference to frame the global discussion. In an effort to harmonise the terminology used in this context, representatives of the spirit, beer and wine sectors agreed upon the following definitions in 2014.

a. Recorded alcohol

- Licit beverage alcohol products produced and sold within a regulatory framework and reflected in official statistics of either the country where they are produced, the country where they are consumed, or both. Thus, in some cases, alcohol considered recorded in the country of production may not be recorded in the country of consumption, and vice versa. Efforts to estimate recorded alcohol in a given market may emphasise the country where it is produced or the country where it is consumed, depending on the nature of the research and whether the focus is at the country or regional level.
- Also referred to as the "formal" market.

b. Unrecorded alcohol

- Alcohol not reflected in official statistics of the country of production, the country of consumption, or both. Includes:
  - (Licit) informal
  - Illicit
  - surrogate
- As with recorded alcohol, efforts to estimate unrecorded or illicit alcohol in a given market may emphasise either the country of production or the country of consumption, depending on the nature of the research and whether the focus is at the country or regional level.
- WHO uses the term "unrecorded alcohol" in its reports (WHO, 2014).

c. Surrogate, or substitute, alcohol

- Alcohol or products containing alcohol not intended for human consumption as beverages, but that are consumed as substitutes for beverage alcohol.

d. Informal alcohol

- Beverage alcohol produced outside a regulatory framework, whose production and consumption tend to follow cultural and artisanal practices. Includes home production.
- May be licit or illicit, depending on the laws governing a particular jurisdiction.

e. Legal cross-border trade or shopping

- Beverage alcohol licitly purchased outside, and brought into, a market for the personal use of the consumer.
- These products are recorded in the jurisdiction where they are purchased, but not where they are consumed.

f. Contraband/smuggled alcohol

- Alcohol with original branding that has been illegally imported/smuggled into a jurisdiction and sold, evading tariffs/customs.
- It includes:
  - "Ant-smuggling": circumventing import/ export regulations by continuously exploiting exemptions that allow travellers' to carry minimal amounts of alcohol for personal consumption. The beverage alcohol is purchased inside one jurisdiction where excise tax is lower than in the market where it is transported for commercial purposes.
  - Beverages brought in excess of the applicable travellers' allowance regulation.

g. Counterfeit alcohol

- Fraudulent imitations of legitimate branded products. These beverages violate the intellectual property (IP) rights of legitimate producers.
- Includes refilling, falsification and tampering.

h. Tax leakage

- Legally produced alcoholic beverages on which the required excise tax was not paid in the jurisdiction of production.

i. Non-conformed alcohol

- Products that are not compliant with production processes, guidelines or labelling legislation.
- Includes products produced with denatured alcohol or illegal industrial alcohol.

j. Parallel imports

- Authentic, branded products licitly imported into, and sold in, a market without the consent of the brand owner.

Illicit trade in alcohol – scope

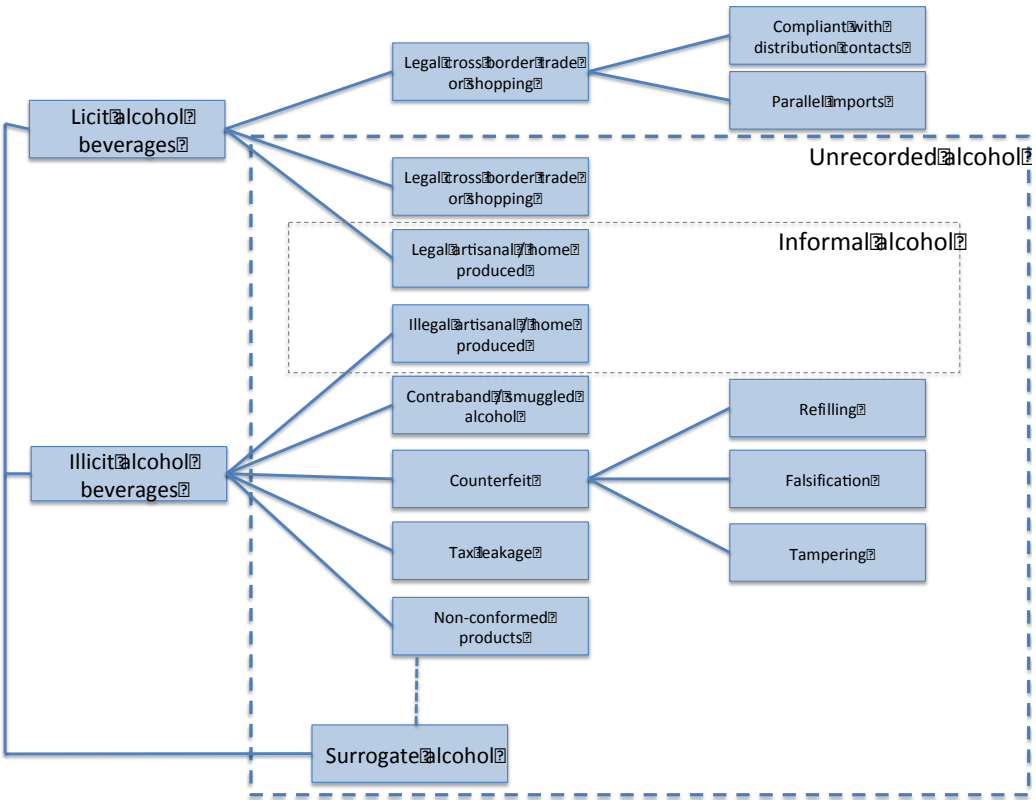
For the purposes of this paper, illicit alcohol has a number of different definitions and forms, and means different things to different people and authorities. At government level, treasuries see illicit products as those not paying taxes, health departments see them as not fit for human consumption, while commercial agencies see as illicit as anything that undermines legitimate business and trade.

From the perspective of companies, illicit trade involves anything that illegally takes trade away from the brand owner. It includes products imported without the permission of the intellectual property owner.

The larger definition would include all products that do not comply with production guidelines, tax, excise, custom or intellectual property legislation.

Based on the definitions agreed upon, a common understanding of "illicit trade in alcohol" would include "illicit alcohol beverages" and "surrogate alcohol" and would exclude from the scope "parallel imports" commercialised through official channels. However, in some countries, parallel trade is illegal, and official data and studies may include this type of trade.

Figure 7.1. Taxonomy of illicit trade in alcohol



Source: Authors

Extent of illicit trade

International organisations such as the World Health Organization (WHO), national governments and stakeholders in general agree that a substantial share of all alcohol consumed globally is derived from non-commercial sources.

However, although WHO makes reference in its *Global Status Report on Alcohol and Health 2014* to an estimation of nearly 25% of total worldwide adult consumption, industry data on a global scale are limited at present, but market-level data collection is expanding across the industry. However, there is no international standard on how it should be measured (WHO, 2014).

Consumption data on a global basis also exist in theory (WHO, 2014), but as well as being open to challenge on the survey methodologies, it is also now somewhat dated (the data used are based on a 2010 survey). It also reports on total unrecorded and does not distinguish consumption by illicit subgroup.

Table 7.1. Total adult per capita consumption (APC), unrecorded APC and proportion of unrecorded
APC of total APC, in litres of pure alcohol, by income group, 2010

Income group	Total APC	Unrecorded APC	Proportion of unrecorded APC of total APC (%)
Low income	3.1	1.4	44.3
Lower middle income	4.1	1.7	42.3
Upper middle income	7.3	1.8	24.2
High income	9.6	0.8	8.5
World	6.2	1.5	24.8

Sources:

European Commission (2013), *Report on EU Customs Enforcement of Intellectual Property Rights: Results at the EU Border*, European Commission, Brussels.

Kaže, V, Strateiþuks, A & Škapars, R (2011), "Consumer Values and Consumption Patterns Driving Latvian Strong Alcoholic Beverages Market", Current Issues in Management of Business and Society Development, Riga

PwC (2013), *Counterfeit goods in the UK – Who is buying what, and why?*, Price Waterhouse Cooper, New York.

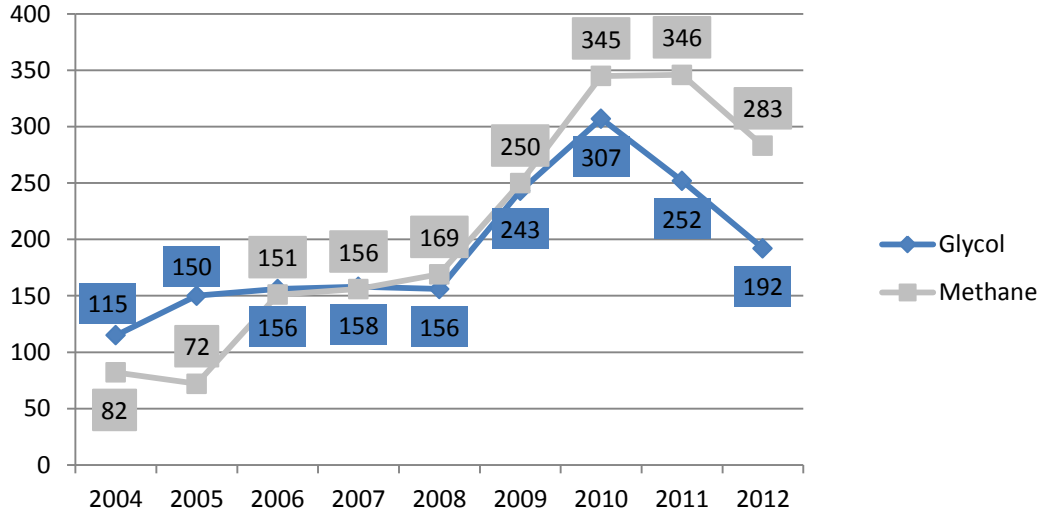
WHO (2014): *Global Status Report on Alcohol and Health*, World Health Organization, Geneva.

There are many market case studies, but some of the methodologies are questionable and use different definitions that further confuse the picture and make comparison difficult. Consumption data are frequently based on consumer surveys, but such surveys rely on a consumer's being able to distinguish illicit alcohol from the genuine product, which, in the case of counterfeit alcohol, can be challenging. This and other factors create a risk of underreporting. Counterfeit surveys conducted at point of consumption can be very effective, but they are expensive, given the expertise involved in identifying counterfeit products. Some statistics based on seizure data (governments/International Federation of Spirits Producers) are publicly available. However, seizure data can fluctuate significantly, and its availability is dependent on the resources and priorities of enforcement at a given point in time (European Commission, 2013).

Data are available, but how robust they are as a basis for globally charting/scaling the issue in terms of economic impact has proven difficult to determine. Some interesting market assessments are, however, available and could be used as case studies:

- A recent consumer survey by PwC UK in the **United Kingdom** indicated that 18% of adult respondents had purchased counterfeit alcoholic products. The reality is that consumers probably meant "illicit/nonconformed" alcohol rather than this more specific subgroup (PwC, 2013).
- In **Latvia**, a recent study sponsored by the Association of Latvian Spirits Producers and Distributors (LADRIA) showed that 56% of regular illicit alcohol consumers have used such products for over 10 years, 34% plan to purchase them again and 59% purchase illicit alcohol at least once a month (Kaže, et al., 2011).
- According to the study, the market for illegal alcohol in Latvia is equivalent to approximately 5 million litres per year. Of the total alcohol market in Latvia, 32% by volume is illicit, non-commercial alcohol.
- In **Poland**, a project was carried out in 2012 by the Polish Spirits Industry (PPS) in partnership with the Ministry of Finance and Customer Service. The main findings were:
  - Between 2009 and 2011, illicit spirits represented around 12 million litres of pure alcohol (mLPA) per year, and the majority of illicit spirits (7 mLPA) was derived from decontaminated industrial alcohol.
  - The illicit alcohol trade is lower than it was 10 years ago, but there has been an observable upward trend in recent years.
  - Between 2008-2011, local hospitalisations due to alcohol consumption and methanol or glycol intoxications and deaths increased.

Figure 7.2. Patients hospitalised in Poland due to glycol and methanol intoxication



Source: Klinicznej, Z.T. (2011), "Przegląd lekarski", Gdańskiego Uniwersytetu Medycznego, Vol.1/ 68/ 8, pp. 453-8.

- In **Mexico**, the average quantity of illicit alcohol consumed is approximately 1 litre of pure alcohol per capita a year (Medina-Mora, M.E. et al. 2011). In

addition, a study conducted by the industry in order to analyse tax issues estimated that 33.1% of the consumption of distilled spirits (>20% vol.) in Mexico was unrecorded. In the formal market for distilled spirits at the end of 2012, 213.5 million litres were sold, at a value of MEX 33 830 million (taxes included). The unrecorded market could thus represent 105.5 million litres, for a value of up to MEX 11 198 million, including taxes (Consultores Internacionales, 2013).

In the same way, a study by the International Center for Alcohol Policies (ICAP, 2012) in 2012 compiled analyses of several national studies and also estimated the consumption of non-commercial alcohol in Mexico at 1 litre of pure alcohol per capita per year. It also noted that distilled beverages account for an estimated 30% to 40% of the non-commercial alcohol market in Mexico.

- In **India**, experts estimate annual alcohol consumption at 2.2 litres pure alcohol per capita for recorded products and 2.2 litres for unrecorded products, according to 2008-2010 figures (WHO, 2014).

  The 2013 report from the Federation of Indian Commerce and Industry (FICCI) suggests that the "grey market" represents 10.2% of total alcohol consumption in India. The study defines the "grey market" as the difference between expenditure on consumption (data from National Sample Survey Office) and the value of the supply captured from the sum of production of factories for domestic consumption (from Annual Survey of Industry data), registered micro-enterprises (data from micro, small and medium enterprises) and imports (data from the Directorate General of Commercial Intelligence and Statistics data) (FICCI, 2013).

  The difference is attributed to the following items:

  – Goods produced or imported and sold in the country by evading taxes.

  – Sale of domestically produced counterfeited (either deceptive or non-deceptive) goods.

- In **China**, it was reported in 2012 that 80% of the milk-wine produced violated national standards. Counterfeiting of fine wines appears to be a major problem. In 2012, 10 000 bottles bearing fake labels of "Château Lafite" were found in a house in Wenzhou (Wen, 2012; The Independent, 2011; BBC, 2012). The French National Institute for Origin and Quality (INAO) handles more than 500 new infringement cases per year, of which 30% are Chinese. Of these 30%, almost 100% deal with wine (La Revue du Vin de France, 2014).

- In **Sri Lanka**, a survey of 2 408 randomly selected households from low socio-economic bracket reported that 19% have a member who regularly consumes non-commercial alcohol.

- In **Brazil**, informal alcohol consumption is estimated to account for 20% of total alcohol consumption (15% of beer, 55% of wine, 32% of cachaça and 63% of other distilled beverages) (Fundação Getúlio Vargas, 2008). Of 608 samples analysed between 1993 and 1999, 391 were counterfeit and two contained methanol content above the limit permitted by legislation (Nagato et al., 2001). The Brazilian Ministry of Agriculture estimates that 95% of the roughly 30 000 to

40 000 stills in Brazil are unregistered/clandestine. In Minas Gerais, it is estimated that 90% are unregistered (Vaissman, 2004).

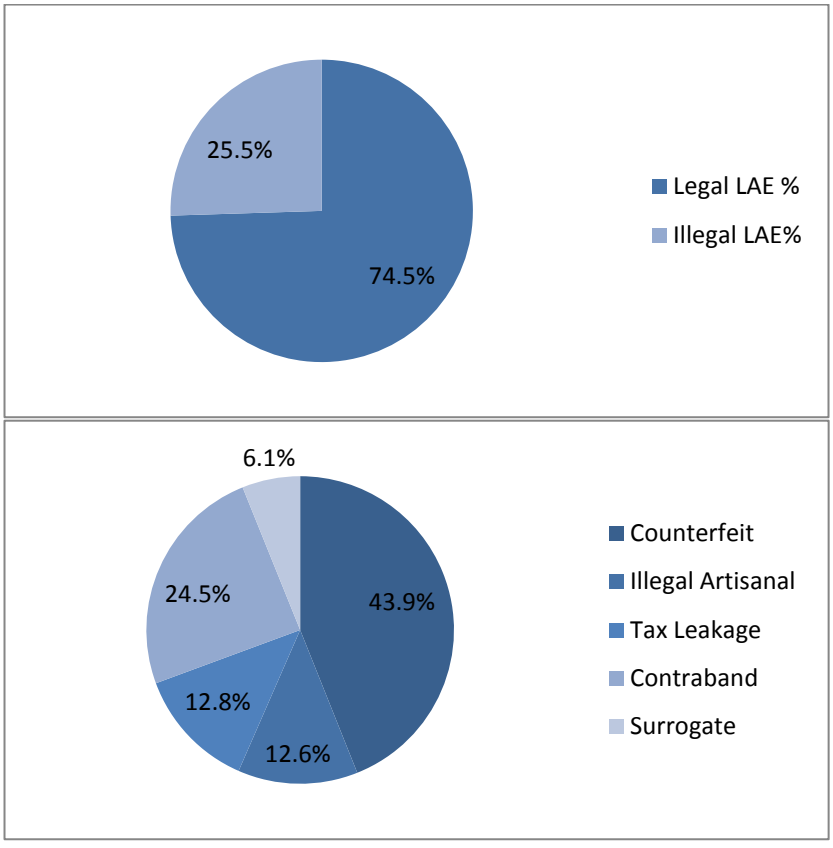
- In the **LATAM** region (Colombia, Ecuador, El Salvador, Honduras, Panama, Peru), while the illegal market represents on average 21% of the total market for alcohol, Colombia, Ecuador and Peru account for more than 94% of the total illegal market (Euromonitor, 2012).

  In Colombia, industrial manufacture of illegal/unbranded brands is the largest subcategory within counterfeit, representing 91.4% of total counterfeit in litres of alcohol equivalent (LAE), of which 100% is distilled, due to the high demand for cheaper distilled products and the higher profit margins compared to beer.

  In Ecuador, the largest illegal alcohol category is contraband. Ecuador's Ministry of Health estimates the number of illegal brands to be about 100, with approximately 1 350 registered brands on the market.

  In Peru, counterfeit products are the most common illegal alcoholic drinks in the market (almost 140 000 hectolitres LAE). These products are popular with consumers because they are cheaper than their legal counterparts, widely available through both formal and informal channels, and are difficult to identify as illegal.

Figure 7.3. Illegal alcoholic beverages market in Latin America region



Source: Euromonitor International (2012), *Size and shape of illegal alcoholic beverage market in LATAM*.

- In **Russia**, non-commercial alcohol beverages, which are untaxed and unrecorded, account for a significant portion of all alcohol beverages consumed, particularly in small towns and rural areas. In the ICAP study, less than 10% of the population in all study sites reported consumption of surrogate alcohol (ICAP, 2012).

  Unrecorded per capita consumption in Russia was estimated at 2 litres in 2010 (Neufeld and Rehm, 2013). In Kaluga Oblast, 471 cases of acute alcohol poisoning were reported in 2011, 99 of which were attributed to surrogate alcohol products. The conclusions from a chemical analysis of 13 samples collected in the Moscow region as part of the Global Actions initiative were as follows: "According to the chemical analysis of 13 beverage samples obtained … the potential acute toxicity of samogon, homebrew, vodka, alcohol and fortified wine available through illegal sale, does not exceed the potential acute toxicity of commercially produced beverages, although it should be noted that chronic use of homebrews may lead to an elevated risk of oncological and hereditary diseases" (Korchagina, G. et al, 2012).

- In **Botswana**, there are few published estimates of unrecorded alcohol consumption. The WHO Global Status Report on Alcohol, the most recent estimate, states that 35.7% of all the alcohol consumed in Botswana comes from unrecorded alcohol (WHO, 2014). A study conducted by the Botswana Epidemiology Network on Drug Use (BENDU) in 2003 found that home brews, due to their affordability and accessibility, were the most common type of alcohol consumed (Parry and Plüddemann, 2003).

- In **Uganda**, the most recent WHO figures on per capita alcohol consumption (based on litres of pure alcohol) show Uganda as having the second-highest per capita consumption of alcohol in sub-Saharan Africa. Every year, the media reports at least one incident in which people die, and/or suffer kidney or liver problems, or go blind, from drinking spirits laced with methanol or other toxic substances. One of the worst incidents occurred in April 2010, when 89 people died and 100 more were hospitalised from drinking unbranded Waragi contaminated with methanol (The Daily Monitor, 2010).

Quantifying the broader impacts of illicit trafficking in alcohol

There are multiple impacts of illicit trade of alcohol:

Consumer health

Increases in alcoholic liver disease and cirrhosis in certain central and Eastern European countries that began in the 1980s have been linked to the consumption of illegal homemade alcohol containing hepatotoxic aliphatic alcohols (N.B. this claim has been disputed) (Szucs et al., 2005; Lachenmeier et al., 2008).

In India, illicit alcohol consumption during 2003-05 caused more than 328 deaths, according to media reports (ICC, 2012).

The level of risk depends on the subcategory of illicit, and so again, understanding which categories are being referred to is crucial (e.g. no health risk from products that have not been subject to an excise tax). The categories where the health risks are most

acute include counterfeit, fictitious "brands", industrial/denatured alcohol and, to a lesser extent, home production.

The primary health risk is from methanol poisoning, although other substances or by-products of manufacture can be found in illicit liquid, such as isopropyl alcohol and chloroform. No scientific studies are known to the industry analysing the potential long-term health risks from consuming product laced with IPA, for example. Studies have been conducted on risks associated with methanol poisoning, although what is deemed a deadly dosage can depend on the individual. Nevertheless, poisoning or death due to unsafe levels of methanol is the No. 1 health risk, and many recent examples support this (Czech Republic, Indonesia, Turkey, Cambodia etc.) (Prauge Post, 2014, The Standard, 2014)).

Long-term development of adverse health effects may explain lack of media coverage on large-scale incidents of illness of deaths from consumption of moonshine, an illicit alcoholic drink common in Virginia and the Southern United States. Lead concentration in humans is cumulative, and the adverse health effects only become apparent with time. A study published in 1995 identified 128 adult deaths linked to lead toxicity in the United States between 1979 and 1988, of which moonshine was the cause in 20 of the 25 patients for whom the source of lead was identified (Staes et al., 1995). In May 2003, research from the Blue Ridge Poison Center at the University of Virginia Health System reported high lead levels in samples of moonshine, and showed that people who drink moonshine are at serious risk of lead poisoning (Bradley, 2005).

Government revenue

The costs of policing organised crime and securing borders is a fiscal burden, not only in the loss of excise and VAT, but in the loss of other taxes such as corporation tax/national insurance contributions.

Health and safety

Production of illicit alcohol is often carried out in unhygienic and uncontrolled conditions. Workers in such facilities, and the general public in the area, can be exposed to the risk of industrial accidents. For example, five people were killed in 2011 in an explosion at an industrial estate in Boston, Lincolnshire in the United Kingdom, when an illicit vodka plant exploded (Daily Mail, 2011).

Environment

Regulated alcohol manufacturers operate in a sustainable way, maximise recycling opportunities, and dispose of any by-products of production in a responsible manner, in order to protect the environment. Illicit operators rarely follow safety standards or guidelines for using natural resources, the quality of materials used or in disposing of waste.

Economic sustainability of legal producers

The existence of illicit alcohol puts at risk the economic sustainability of legal producers and their workers. The effects on the formal economy of the trade in illicit alcohol are summarised in Chapter 5 of this report.

Effects on government revenues (structured by region and/or countries)

Similar scenario to above, data exist but some uncertainty remains concerning what it is based on, and/or how it is calculated. Several studies demonstrate the loss of revenues that illicit alcohol represents for governments:

Table 7.2. Summary of lost government revenue

Country	Year	Loss in USD	Comment
United Kingdom	2013	395	Spirits (midpoint estimation)
		1 000	Beer (midpoint estimation)
			Wine (midpoint estimation)
Greece	2013	50	
Netherlands	2013	135	Cross border
Latvia	2011	54	Potential direct tax revenues
Poland	2012	281	Direct tax revenues
South Africa	2009	75	Wine and spirits
India	2012	404	Tax loss
Russia	2004	267-400	
Estonia	2001	8	
Thailand	2010	278	Tax evasion
Colombia	2011	300	Contraband of spirits
Cambodia	2006	22	Beer smuggling

Sources:

HMRC (2014a): *Measuring tax gaps*, https://www.gov.uk/government/statistics/measuring-tax-gaps

Foundation for Economic and Industrial Research (2013), The Spirits Sector in Greece,

WASET (2012), *Impact of changes in excise tax rate for strong alcohol on consumption and state revenues in Latvia*, World Academy of Science, Engineering and Technology, www.waset.org/publications/11178/impact-of-changes-in-excise-tax-rate-for-strong-alcohol-on-consumption-and-state-revenues-in-latvia.

Lithuanian Free Market Institute (2012), *Lithuanian Shadow Economy*, http://4liberty.eu/wp-content/uploads/2012/11/LFMI-Shadow-economy-Lithuania-2012.pdf.

SADC (2012), *SADC Review – Study into the illicit trade in excisable products with particular reference to alcohol and tobacco products*, SADC Publishing, www.sadc.int/files/3913/5895/1270/SADC_study_into_the_illicit_trade_in_excise_products.pdf.

FICCI (2012), *Socio-Economic Impact of Counterfeiting, Smuggling and Tax Evasion in Seven Key Indian Industry Sectors*, Federation of Indian Chambers of Commerce and Industry, www.ficci.com/spdocument/20190/Executive-Summary-invisible-enemy-aug-8-2013.pdf.

- **United Kingdom**: Each year, Her Majesty's Revenue and Customs (HMRC, 2014a) calculates the estimated loss of tax on excise goods through criminal activity. A top-down approach is used, and the National Statistics Office's Survey of Living Costs and Food (LCF) survey is used to calculate the overall consumption of alcohol by the population. From this, the legitimate clearances are subtracted, the difference being the tax gap or loss. The resulting upper and lower statistical limits have a 95% accuracy. The tax loss median figure is the midpoint between the upper and lower statistical limits, the latter sometimes being a

negative figure. The methodologies are similar for wine and spirits, but departmental data only is used to calculate the lower limit for beer tax loss.

The 2014 report estimates that in 2013, the illicit market was as follows (N.B. the estimated figures for wine and beer are considered to be too high by the respective industries):

Table 7.3. Size of the illicit alcohol market in the United Kingdom (2012-13)

Product	Upper estimate	Midpoint estimate	Revenue losses (upper-midpoint estimate)
Spirits	13%	5%	GBP 680mn-260 mn
Beer	17%	12%	GBP 1 000mn-700mn
Wine	11%	5%	GBP 720mn -340mn

Source: HMRC (2014a): Measuring tax gaps, www.gov.uk/government/statistics/measuring-tax-gaps.

- **Greece**: According to a study by the Foundation for Economic and Industrial Research (IOBE), the losses from the illegal trade of alcoholic beverages, estimated to have been exacerbated after the increase of excise duty, are calculated at approximately EUR 57 million (without including the two-day produced tsipouro, or pomace brandy) due to the non-payment of excise duty. Additional losses stem from the nonpayment of the VAT in a large segment of the market (Foundation for Economic and Industrial Research, 2013).
- **Netherlands**: Four criminal cases in 2012-13 led to a recovery of EUR 6 million unpaid excises and penalties. Dutch authorities estimate the revenue losses at EUR 100 million per annum.
- **Latvia**: According to a recent study, the illicit trade in alcohol represents a loss of EUR 54 million annually in potential direct tax revenues, not to mention the extra burden on the social budget (WASET, 2012).
- **Lithuania**: Surrogates that are classified as cosmetics and not subjected to alcohol regulation constitute 7% of alcohol turnover, according to the Alcohol Industry Association of Latvia (LANA) (Lithuanian Free Market Institute, 2012).
- **Poland**: A project carried out in 2012 by the Polish Spirits Industry (PPS) in partnership with the Ministry of Finance, Customer Service and the Polish Security Printing Works indicated a loss of direct tax revenues of approximately EUR 281 million annually.
- **South Africa**: In 2009, about 160 000 hectolitres of spirits and about 400 000 hectolitres of wine were estimated by industry as illicit, corresponding to an annual revenue loss for the government of about EUR 75 million (SADC, 2012).
- **India**: The gap between supply and consumption was USD 800 million in 2010 (FICCI report), and rose to USD 1.2 billion in 2012. This represents a tax loss for the Indian government in 2012 of IND 25 100 million – approximately IND 2 600 million in direct tax and IND 22 500 million in indirect tax (FICCI, 2012).

The FICCI report calculates this loss to government on the basis of an estimated sales loss for the industry of IND 56 260 million.

- **Russia**: The annual loss from the illicit alcohol trade was estimated at RUB 20 billion in 2000 and RUB 7.6 billion-11.7 billion (USD 267 million-400 million) in 2004.
- **Estonia**: An excise tax deficit for spirits of EEK 216 million was estimated in 1999, EEK 64 million in 2000, and EEK 91 million in 2001. The figures were attributed to illicit alcohol (namely, vodka).
- **Thailand**: The estimated annual loss was THB 10 billion in 2010, due to tax evasion on alcohol (including, but not limited to, smuggled/illicit products) (The Bangkok Post, 2011).
- **Colombia**: From 1995 to 1999, a 30% loss each year was estimated, due to inter-departmental smuggling (Oxford Economic Forecasting, Fedesarollo, and International Tax and Investment Centre, 2000). Annual losses due to contraband liquor were estimated at USD 300 million in 2011 (El Espectador, 2011).
- **Cambodia**: Beer smuggling resulted in USD 22 million of lost revenue in 2006 (ABC News, 2007).

Effects on the formal economy

There are a number of clear effects:

Loss of sales revenue

The mere existence of unrecorded alcohol imposes a strain on the formal economy by reducing sales of legitimate producers and loss of excise tax revenue to governments. For example, in India, the spirit sector estimates the loss of sales due to grey market operations for 2012 at IND 56 260 million. The loss of revenue hampers investments and innovation in the industry (FICCI, 2012).

Loss of jobs

Other generic IP reports try to quantify the impact of "illicit" or counterfeit in terms of loss of jobs in the formal economy. This can be a difficult to quantify/support, and no credible data on this exists for the alcohol sector.

Increased cost base

Covert and overt protection measures to defend brands from attack can cost millions to develop and implement, increasing the cost base and the prices to consumers.

Loss of equity/reputation

Governments do not always differentiate between harm caused by illicit products and that caused by the abuse of legal products. The image of the alcohol sector as a whole, as well as of specific brands, when counterfeiting is involved, is a significant concern.

It is also clear that some of the health and behavioural issues being reported by some authorities are not simply the result of consumers drinking irresponsibly, but potentially a result of drinking contaminated illicit spirits.

Brands' public loss of reputation among consumers who have consumed counterfeit alcohol is also an issue, although it is difficult to quantify.

Legislative burdens

There are additional legislation or restrictions that the formal sector must contend with as a result of illicit activity. These can be related to health, marketing freedoms or sales/ distribution. The Czech Republic is a case in point, where the spirits industry was affected by the consequences, although it was not directly involved in the initial problem (RT, 2012). The sad irony is that attempts to manage the problem by legislation in the formal sector can often create conditions more conducive for illicit trade to flourish.

Nexus with transnational organised crime

In many countries, the production and sale to retailers and consumers of counterfeit products has been practiced mostly on a localised, "cottage-industry" scale to date, with one or two individuals working together to refill and recap genuine empty bottles, perhaps 100 at a time. However, in Russia, Europe and elsewhere, organised criminal gangs have manufactured and supplied counterfeits on a much larger scale, making use of heavy machinery such as bottling lines, as well as entirely counterfeit components, including bottles. For organised criminals, the equation is one of risk versus reward, and counterfeiting of alcohol is likely to attract their interest. Counterfeiting of alcohol is not a government or law enforcement priority, because the penalties for those who are caught generally do not constitute a deterrent (that is, modest fines and, occasionally, short custodial sentences). The potential profits of the counterfeiting of alcohol relative to the investment demanded are substantial. It provides a quick return, whether as manufacturers, as suppliers of illicit spirit or bottles to counterfeiters, or as peddlers through clubs and bars.

In Europe, the trend is for operations to move from refilling genuine bottles to full-scale mechanised manufacture. All aspects of the pack are replicated (bottles, labels, closures as well as illicit/industrial alcohol). Some operations are mobile, full production units being packed into 60-foot containers that can be moved around a country. In Russia, a manufacturing site was recently raided that had the capacity to produce 11 000 bottles of illicit alcohol per hour. Investment in such machinery, the operations' level of sophistication, and the sheer scale of production is indicative of organised crime. According to Dutch Customs authorities, non-duty-paid products found in the Netherlands are largely destined for the United Kingdom.

The international linkages of illicit alcohol are indicated by recent UK Border Force actions: (HMRC, 2014b):

- 580 interceptions (seizures at the border and referrals to HMRC) protecting revenue of over GBP 18 million; 56 heavy goods vehicles seized between April and June 2013.

- 735 interceptions (seizures at the border and referrals to HMRC), protecting revenue of over GBP 33 million, and 35 heavy goods vehicles seized between July and September 2013.

There is less evidence of linkages to terrorism, but vodka counterfeiting was known as a source of funding for the Irish Republican Army (IRA), and some of those involved have continued their activities even though they no longer have any evident link with paramilitary forces (Caunic, 2011).

The illicit trade is transnational/global in nature. Cross-border trade of smuggled and duty-diverted goods is prevalent in many parts of the world. There is also evidence of cross-border trade of counterfeit/illicit alcohol products between neighbouring markets. However, the real global nature of illicit alcohol trade is reflected in the sourcing of component parts by organised criminal gangs. Eastern Europe and Asia are a source of fake/counterfeit dry goods, which are imported into a specific target market and used to assemble the illicit product for local consumption.

The World Wide Web has offered a new source of commerce. A study from the Free University of Bozen-Bolzano in Italy analysed the online auctions market for empty wine bottles through eBay in Germany, indicating the real risk of refilling them to resell as genuine wine (Schamel, 2013).

Customs authorities in the EU in 2013 reported 13 cases concerning alcoholic beverages covering 59 240 articles and representing a retail value of original products of EUR 1.5 million. The EU report notes that 69.91% of alcoholic beverages coming from China and 28.76% of those coming from Latvia were not released (European Commission, 2013). These figures are examples of counterfeit spirits bottles manufactured in China and shipped to Europe. The extent of such trade is not clear, but it is relatively easy to organise, given China's impressive ability to manufacture counterfeit bottles (National Review). From the Customs' point of view, the sheer volume of container traffic makes intercepting such shipments a matter either of luck or good intelligence.

Drivers of the trade in illicit alcohol

a) An economic gap with legal products

Illicit trade in alcohol is flourishing in an economic landscape where austerity measures are reducing disposable income, and pricing policies (taxation, minimum unit price, etc.) limit the affordability of alcohol in the regulated sector.

It is no great surprise that products subject to high rates of tax and excises, as alcoholic products are, are typically a target of the counterfeit industry (Transcrime, 2010). Markets with the highest excise regimes tend to have greater problems with illicit trade, whether smuggled or counterfeit, etc. Since direct and indirect taxation raises the price of value of a bottle of spirits, the financial rewards for those who avoid paying the taxes can be huge, and markets with the biggest "tax opportunity" are most targeted. It may be an exaggeration, but in many markets it is not far from the truth to state that taxation on alcohol effectively funds illicit activity.

Recent tax increases in Ecuador (particularly the *impuesto a los consumos especiales*, or ICE), for example, has boosted the growth of illegal alcohol in the past five years, reducing the sale of legal/formal liquor (Euromonitor, 2012).

In Mexico, a formal alcoholic beverage (with alcohol content above 20% alcohol by volume), has to pay 53% excise tax (*ad valorem*) plus 16% VAT applied to the base price (Ley del impuesto especial sobre producción y servicios, 2013; Ley de Impuesto al Valor Agregado, 2013).

With this taxation structure, illicit products are offered to the consumer for about MEX 200 for a 5-litre bottle, when the average cost of a litre of an alcoholic beverage is around MEX 100. Given the real price structure for such products, the cost of one litre is estimated at about MEX 10, making the total cost for 5 litres about MEX 50. The potential profit makes such products very attractive to producers.

Ad valorem tax regimes present a greater risk of counterfeit activity than premium (international) brands, as do markets with high trade tariffs, such as India. Both have a detrimental impact on affordability, but not on demand.

b) Legislative framework

Annex I contains some examples of market legislation. There is no all-purpose approach, as different markets have a range of laws in place (both criminal and civil) under which action can be taken. The biggest challenge appears in those markets with weak laws, or where laws may be strong but the penalties weak, or where the police/judiciary do not effectively enforce existing laws. This can make the illicit trade attractive compared with other forms of criminal activity, because any penalties (such as fines) are factored into their business plans, and operations can be swiftly resumed if no custodial sentence is involved.

c) Lack of enforcement

Typically, illicit alcohol production attracts less interest from law enforcement, as other, more serious crimes take precedence. Mexico, for example, has stringent laws governing illegal alcohol, but the police do not enforce them, as they prioritise their work suppressing drug wars/firearms activities.

Mexican authorities have stepped up their efforts to prevent the entry of illicit alcohol into the market of in recent years. However, with 87 000 litres confiscated in 2010 versus 367 000 litres destroyed in 2012, it still represents a tiny part of the illicit alcohol in the market, given that an estimated 105.5 million litres of illegal alcohol are consumed annually (Informador, 2013).

The issue becomes a priority only if there is an impact on consumer health (e.g. in the Czech Republic) or when organised crime and tax fraud is involved on a large scale. This, rather than any violation of IP, drives law enforcement engagement.

Customs officials' lack of training in recognising counterfeit products is also a critical point in the fight against illicit alcohol.

d) Social values

In the LATAM region (Colombia, Ecuador, El Salvador, Honduras, Panama, Peru), as in the rest of the world, counterfeit and illegal brands are bought almost exclusively by low-income sectors of the population. In addition, there is a certain level of acceptance and perceived legitimacy of contraband products across all countries (Euromonitor, 2012).

Surrogate products are largely consumed by those with heavy substance abuse issues, generally homeless populations. Unlike other pirated products, consumers are not generally aware that these products are illicit alcoholic beverages, or, in most cases, of the health risks associated with the consumption of illicit alcohol.

References

ABC News (2007), *Cambodia losing millions to beer smuggling*, www.abc.net.au/news/2007-05-11/cambodia-losing-millions-to-beer-smuggling/2546024, (accessed 20 October 2015).

BBC (2012), *Fine wine hoard highlights China's problem with fakes*, www.bbc.com/news/world-asia-china-20265803 (accessed 5 September 2015).

Bradley, D. (2005), *Lead poisoning risk for 'hooch' drinkers*, spectroscopyNOW, www.spectroscopynow.com/details/ezine/sepspec11404ezine/Lead-poisoning-risk-for-hooch-drinkers.html, (accessed 4 September 2015).

Caunic, I. (2011), *The Market for Counterfeit Goods and Financing of the Extremist Organizations in Europe in the Last Decade*, Second International Conference on Humanities, Historical and Social Sciences, www.ipedr.com/vol17/65-CHHSS%202011-H10119.pdf.

Daily Mail (2011), *Bottles litter the ravaged industrial unit 'used by migrant workers to illegally distil vodka' after an explosion that killed five*, www.dailymail.co.uk/news/article-2014522/Boston-explosion-kills-5-Broadfield-Lane-Industrial-Estate-used-illegally-distil-vodka.html, (accessed 5 September 2015).

El Espectador (2011), *Colombia pierde US$1.500 millones anuales por contraband*, www.elespectador.com/economia/articulo-254289-colombia-pierde-us1500-millones-anuales-contrabando, (accessed 20 October 2015).

Euromonitor International (2012), *Size and shape of illegal alcoholic beverage market in LATAM*, Euromonitor International, London, www.andi.com.co/Documents/PCFPUM/estudio%20mercadeo%20ilegal.pdf.

European Commission (2015), *Excise Duty Rates*, European Commission, Brussels, http://ec.europa.eu/taxation_customs/taxation/excise_duties/alcoholic_beverages/rates/index_en.htm (accessed 5 September 2015).

European Commission (2013), *Report on EU customs enforcement of intellectual property rights - Results at the EU border*, European Commission, Brussels, http://ec.europa.eu/taxation_customs/resources/documents/customs/customs_controls/counterfeit_piracy/statistics/2014_ipr_statistics_en.pdf.

FICCI (2012), *Socio-Economic Impact of Counterfeiting, Smuggling and Tax Evasion in Seven Key Indian Industry Sectors*, Federation of Indian Chambers of Commerce and Industry, New Delhi, www.ficci.com/spdocument/20190/Executive-Summary-invisible-enemy-aug-8-2013.pdf.

Foundation for Economic and Industrial Research (2013), *The Spirits Sector in Greece*, Foundation for Economic and Industrial Research, Athens.

Fundação Getúlio Vargas (2008), *Estimativa de informalidade no segment de bebidas alcoólicas no Brasil*, FGV Projeto AMBEV, Rio de Janeiro, www.globalactions.org/LinkClick.aspx?fileticket=sFMVZDPNOaE%3D&tabid=294.

HMRC (2014a), *Measuring tax gaps,* Her Majesty's Revenue and Customs, London, www.gov.uk/government/statistics/measuring-tax-gaps.

HMRC (2014b), *Tackling alcohol smuggling: outputs*, Her Majesty's Revenue and Customs, London, www.gov.uk/government/publications/tackling-alcohol-smuggling-2013-to-2014-outputs.

La Revue du Vin de France (2014), *Beau Jolée, "Chatelet Margaux : la lente protection des vins français en Chine*, www.larvf.com/,vin-contrefacon-chine-vins-bordeaux-grands-crus-lutte-appellations-d-origine-controlee-champagne-cognac,4404407.asp, (accessed 5 September 2015).

ICAP (2012), *Producers, sellers and drinkers: Studies of noncommercial alcohol in nine countries*, International Center for Alcohol Policies, Washington.

ICC (2012), *Counterfeiting, Piracy and Smuggling in India – Effects and Potential Solutions*, International Chamber of Commerce, Paris, www.iccwbo.org/Data/Documents/Bascap/International-engagement-and-advocacy/Country-Initiatives/India/Counterfeiting,-piracy,-smuggling-in-India---Effects-and-possible-solutions-(low-resolution)/ .

Imformador (2013.), *Decomiso de alcohol adulterado aumenta 320%*, www.informador.com.mx/economia/2013/430485/6/decomiso-de-alcohol-adulterado-aumenta-320-dice-cofepris.htm (accessed 5 September 2015).

Kaže, V, Strateiþuks, A & Škapars, R (2011), *Consumer Values and Consumption Patterns Driving Latvian Strong Alcoholic Beverages Market*, Current Issues in Management of Business and Society Development, Riga.

Klinicznej, Z.T. (2011), "Przegląd lekarski", Gdańskiego Uniwersytetu Medycznego, Vol.1/68/8, pp. 453-8.

Korchagina, G. et al., (2012), *Noncommercial alcohol in Russia: A case study from Moscow region's town of Klin and its surrounding rural areas*, Global Actions on Harmful Drinking, Washington DC, www.global-actions.org/LinkClick.aspx?fileticket=sk%2BPlu6MHmY%3D&tabid=529.

Lachenmeier D.W. et al. (2008), "Defining maximum levels of higher alcohols in alcoholic beverages and surrogate alcohol products", *Regulatory Toxicology and Pharmacology*, Vol. 50, pp. 313–321.

Ley del impuesto especial sobre producción y servicios (2013), www.diputados.gob.mx/LeyesBiblio/ doc/78.doc (accessed 5 September 2015).

Ley de Impuesto al Valor Agregado (2013), www.diputados.gob.mx/LeyesBiblio/doc/77.doc (accessed 5 September 2015).

Lithuanian Free Market Institute (2012), *Lithuanian Shadow Economy*, Lithuanian Free Market Institute, Vilnius, http://4liberty.eu/wp-content/uploads/2012/11/LFMI-Shadow-economy-Lithuania-2012.pdf.

Oxford Economic Forecasting, Fedesarollo, and International Tax and Investment Centre (2000), *The taxation of spirits in Colombia: Problems with the current regime and the impact of tax reform*, www.repository.fedesarrollo.org.co/bitstream/11445/985/1/Repor_Octubre_2000_McLure.pdf.

Medina-Mora, M.E. et al. (2011), *Estimaciones de consumo de alcohol no regulado en México: Implicaciones para una política pública integral*, Instituto Nacional de Psiquiatría, Mexico City.

Nagato, L.A.F. et al. (2001), "Monitoramento da autenticidade de amostras de bebidas alcoólicas enviadas ao Instituto Adolfo Lutz em São Paulo", *Ciência e Tecnologia de Alimentos*, Vol. 21/1, pp. 39-42.

Neufeld, M., and J. Rehm (2013), "Alcohol consumption and mortality in Russia since 2000: Are there any changes following the alcohol policy changes starting in 2006?", *Alcohol and Alcoholism*, Vol. 48/2, pp. 222-230.

Parry, C.D.H. and A. Plüddemann (2003), *Southern Africa Development Community Epidemiology Network on Drug Use (SENDU): January – June 2003*, Medical Research Council, Cape Town, quoted in WHO Global Status Report on Alcohol 2004.

Prauge Post (2014), *Main suspects of deadly Czech methanol case charged*, www.praguepost.com/czech-news/34392-main-suspects-of-deadly-czech-methanol-case-charged#ixzz3l0Ss4XBG (accessed 4 September 2015).

PwC (2013), *Counterfeit goods in the UK – Who is buying what, and why?*, Pricewaterhouse Cooper, New York.

RT (2012), *Czech Republic bans liquor in bid to curb methanol deaths*, http://rt.com/news/czech-alcohol-prohibition-poisoning-188/, (accessed 20 October 2015).

SADC (2012), *SADC Review – Study into the illicit trade in excisable products with particular reference to alcohol and tobacco products*, SADC Publishing, Hamburg, www.sadc.int/files/3913/5895/1270/SADC_study_into_the_illicit_trade_in_excise_products.pdf.

Schamel, G. (2013), *Forensic Economics: Some Evidence for New Wine to be sold in Old Bottles*, 3rd Annual Meeting American Association of Wine Economists (AAWE).

Staes, C. et al. (1995) "Lead poisoning deaths in the United States, 1979-1988", *Journal of the American Medical Association*, Vol. 273, pp. 847-848.

Szucs, S. et al. (2005), "Could the high level of cirrhosis in central and eastern Europe be due partly to the quality of alcohol consumed? An exploratory investigation", *Addiction*, Vol. 100, pp. 536-546.

The Bangkok Post (2011), *Same taxes for spirits urged*, www.bdo-thaitax.com/bdo/in-the-news/2639, (accessed 20 October 2015).

The Daily Monitor (2010), *When African brewers ferment death*, www.monitor.co.ug/News/Insight/-/688338/905924/-/7u0ahd/-/ (accessed 4 September 2015).

The Independent (2011), *Watch for the rise of fake wine, Asia's top expert warns*, www.independent.co.uk/life-style/food-and-drink/watch-for-the-rise-of-fake-wine-asias-top-expert-warns-2224087.html, (accessed September 5 2015).

The Standard (2014), *6 killed on suspicion of wine poisoning in Cambodia*, www.thestandard.com.hk/breaking_news_detail.asp?id=54959, (accessed 20 October 2015).

Transcrime (2010), *Anti Brand Counterfeiting In The EU: Report On International And National Existing Standards*, Transcrime Joint Research Centre on Transnational Crime, www.gacg.org/Content/Upload/Documents/Transcrime_Report%20Existing%20 Standards_Project%20FAKES.pdf.

Vaissman, M. (2004), "Licit and illicit beverages in Brazil", in A. Haworth and R. Simpson (eds.), *Moonshine markets: Issues in unrecorded alcohol beverage production and consumption*, Brunner-Routledge, New York, www.globalactions.org/LinkClick.aspx?fileticket=sFMVZDPNOaE%3D&tabid=294, pp. 87–102.

WASET (2012), *Impact of changes in excise tax rate for strong alcohol on consumption and state revenues in Latvia*, World Academy of Science, Engineering and Technology, Paris, waset.org/publications/11178/impact-of-changes-in-excise-tax-rate-for-strong-alcohol-on-consumption-and-state-revenues-in-latvia.

Wen, Z. (2012), *No fresh milk used in 80% milk wine*, Shanghai Daily, http://en.people.cn/90882/7795242.html (accessed 5 September 2015).

WHO (2014), *Global status report on alcohol and health*, World Health Organization, Geneva, www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_2.pdf?ua=1.

WHO (2004), *Global Status Report on Alcohol*, Department of Mental Health and Substance Abuse, World Health Organization, Geneva, www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf, p. 29.

Annex 7.1: Illustrative legal frameworks for anti-counterfeiting

United Kingdom

	IP laws	Other civil/statutory laws or remedies	Criminal laws and liability (including administrative liability)
Applicable laws	Trade Marks Act 1994 or Copyright Designs Patents Act 1988; Council Regulation (EC) 1383/2003 and Goods Infringing Intellectual Property Rights (Customs) Regulations 2004 (the "EU Regulation").	Sales of Goods Act (SOGA)	Consumer Protection from Unfair Trading Regulations 2008 (CPR 2008); Fraud Act 2006 (FA 2006), Conspiracy and Proceeds of Crime Act 2008. Conspiracy to commit an offence under TMA 1994 or CDPA 1988 is also a criminal offence under Section 1 Criminal Law Act 1977. Also other miscellaneous offences under Criminal Law Act. Council Regulation (EC) 1383/2003 Goods Infringing Intellectual Property Rights (Customs) Regulations 2004 (the "EU Regulation").
Interim Injunction available	Yes	No	No
Damages available	Yes	Yes	Generally no
Storage and destruction of goods	Yes	No	Yes, goods can also be confiscated
Imprisonment	No unless private criminal proceedings are brought by owner.	Generally no	Yes, up to 5 years on summary conviction and 10 years on indictment conviction
Fines	No, unless private criminal proceedings are undertaken by owner.	Generally no	Yes, a maximum of GBP 5 000 on summary conviction and unlimited fine on indictment conviction.
Other penalties	No, unless private criminal proceedings are undertaken by owner	Restitution	Can have both imprisonment and fines at the same time.
Prosecution	By owner	By aggrieved customer	By government authorities, e.g. trading standards or Customs. Possibility of taking out private criminal proceedings in some cases.

Viet Nam

	IP laws	Other civil/statutory laws or remedies	Criminal laws and liability (including administrative liability)
Applicable laws	Civil Procedure Code – Article 129 (infringement), 202 (civil remedies), 206 to 210 (preliminary injunction), 204 and 205 (damages). Article 25 & Article 29 (subject-matter jurisdiction over IPR-related disputes); *Chapter VIII, Part I of the Law (injunctions*), Article 198 – IPR holders' entitlement to protection against infringement. *IP Law*: Article 216 (border enforcement measures); Article 218 to Article 219 (procedures for border enforcement measures)	*Product Liability Claim*: Ordinance on Protection of Consumers' interest (Article 9 – Consumers' right to sue manufacturers' product liability)	*Penal Code*: Article 156 (manufacturing or trading in prohibited goods), Article 157 (counterfeit foodstuffs and pharmaceuticals), and Article 171 (penalties). *IP Law*: Article 216 (border enforcement measures); Article 217 (brand owners' burden of proof); Article 218 to Article 219 (procedures for application of border enforcement measures). *Decree No. 154/2005/ND-CP*: Article 48 to Article 55 (procedures for application of border enforcement measures). Administrative Action: *Article 129* (trademark infringement); *Article 213* (definition of counterfeit trademark goods); *Article 214 to Article 215* (administrative sanctions and measures) *Ordinance on Administrative Sanctions: Article 12 to Article 21* (types of administrative sanctions applicable against infringers); *Article 28 to Article 42* (enforcement bodies' powers)
Interim Injunction available	Yes	No	No
Damages available	Yes	Yes	Owner may make a civil claim and have this included in the court's decision.
Storage and destruction of goods	Yes	No	Yes, goods can also be confiscated
Imprisonment	No	Generally no	Yes, usually six to seven months. Often less than 20 years, but a life term is possible.
Other penalties	No	Generally no	Capital punishment: theoretically possible
Fines	No	Generally no	Yes, criminal action. Maximum of VNM 50 million (about USD 3 000). For administrative action, up to five times the value of counterfeit goods up to VNM 100 million (USD 5 900).
Prosecution	By owner of IP right	By aggrieved customer	By government authorities e.g. Trading Standards or Customs. Possible to take out private criminal proceedings in some cases.

South Africa

	IP laws	Other civil/statutory laws or remedies	Criminal laws and liability (including administrative liability)
Applicable laws	Civil procedures under the Counterfeit Goods Act 37 of 1997 – however Notice of intention to institute civil proceedings must be served within 10 court days of detention by Customs, and civil proceedings instituted 10 days thereafter. Can also bring proceedings in respect of IP infringement separately under the normal IP laws (South African Trade Marks Act 1993) or concurrently with action under the CGA.	Consumer Protection Act 2008 (CPA). Under Section 61 of the CPA, a producer, importer, distributor or retailer of goods is liable for any harm or damage caused wholly or partly as a result of: • the supply of unsafe goods, • a product failure, • defect or hazard in the goods, • inadequate instructions or warnings provided to the consumer pertaining to any risk associated with the use of the goods, regardless of whether the harm resulted from any negligence on the part of the producer, importer, distributor or retailer. This liability is joint and several, which means that a consumer can elect to take action against any one of the parties in the supply chain, irrespective of any contract with that party and even where they are unable to establish negligence. Furthermore, suppliers, manufacturers and distributors may not contract out. of this strict liability.	Counterfeit Goods Act 37 of 1997 and the regulations thereto (CGA). Customs: In terms of Section 15 of the CGA, South African Revenue Services/ Customs authorised to act as Inspectors in the detention and seizure of counterfeit goods. Also Relevant provisions of Customs & Excise Act: details the relevant provisions for actions and procedures including the detention and obtaining of warrants for the seizure of counterfeit goods in terms of the CGA. Police: Commercial Crime Unit (CCU) is tasked with actions in the marketplace. CCU is very active in the marketplace in acting on complaints lodged by brand holders as well as department-driven initiatives. CIPC Inspectors: Companies and Intellectual Property Commission (CIPC), formerly the Department of Trade and Industry (DTI), has appointed Inspectors entitled to receive complaints and act under the provisions of the Counterfeit Goods Act. This is a relatively new body. CIPC also responsible for the appointment and control of Counterfeit Goods Depots. Customs will not act unless trademark, etc., is registered. Also Contravention of labelling requirements, Liquor Act requirements can offer alternative relief available in cases where there is a contravention of these provisions (and not for counterfeits *per se*).
Interim Injunction available	No	No	No
Damages available	Yes using IP laws	Measure of damages is the harm, injury or loss suffered by an aggrieved consumer.	Generally no
Storage and destruction of goods	Yes	No	Yes, including seizure by Customs.
Imprisonment	Generally no	Generally no, unless it becomes a criminal offence	Imprisonment theoretically possible (maximum of 3 years for first conviction and maximum 5 years on subsequent convictions) but very rare.
Fines	Only under private criminal prosecutions	Generally no unless it becomes a criminal offence	Yes. Amount not exceeding ZAF 5 000 per article in first conviction and ZAF 10 000 per article on subsequent convictions.
Other penalties	None	Generally none	None
Prosecution	Owner. Owner can also bring private criminal prosecutions.	Aggrieved person	By customs, police or CIPC Inspectors

References

European Commission (2013), *Report on EU Customs Enforcement of Intellectual Property Rights: Results at the EU Border*, European Commission, Brussels.

Kaže, V., A. Strateiþuks and R. Škapars (2011), *Consumer Values and Consumption Patterns Driving Latvian Strong Alcoholic Beverages Market*, Current Issues in Management of Business and Society Development, Riga.

PwC (2013), *Counterfeit goods in the UK – Who is buying what, and why?*, Pricewaterhouse Coopers, New York.

WHO (2014): *Global Status Report on Alcohol and Health*, World Health Organization, Geneva.

Chapter 8

Sport manipulation as economic crime

By Fred Lord and Stuart Page*

Global sporting events and the revenues of their immediate derivative products, such as televised events and sports betting, have been growing at an exponential rate. A negative side effect of the globalisation of sports has been an increase in abuse of the betting market as a mechanism for money laundering. This chapter argues that a patchwork of policies against illegal betting and frameworks for sports governance is currently exploited to fuel the criminal economy by providing a means to launder massive amounts of illicit revenues. Criminal individuals and groups have been known to penetrate leagues and teams through ownership or contractual arrangements, which positions them to manipulate results. The authors argue that the cases of manipulation could be far more numerous than is currently reported or acknowledged due to a lack of sufficient fraud detection resources and weak surveillance. They conclude with a call for the adoption of more effective preventive measures, and for enhanced means to detect and/or report incidents through an internationally co-ordinated, pro-active response.

* *The International Centre for Sports Security (ICSS) - Sorbonne Research Programme on Ethics and Sports Integrity*

The opinions expressed and arguments employed in this chapter are those of the author(s) and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

This chapter and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

1. Note by Turkey:
The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

2. Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Introduction

On the surface, sport is booming. Globalisation has created new markets, bigger audiences and greater commercial opportunities. As sport has become global, however, so too have the criminal networks that prey upon Organised crime syndicates are well-versed in exploiting the gaps in corporate governance and international co-ordination, and they are looking to new sports markets for fertile ground. Gambling on sports, and rigging the results, has become a means to launder money obtained in other criminal enterprises.

Definitions

There are currently few definitions of the concept of manipulation of sports competitions, whether within academic doctrine or adopted at the international level. It is therefore necessary to formulate a more elaborate definition of the concept, based on the one hand, on the possible link between manipulation and sporting bets and, on the other hand, the possibility that sporting participants may be offered a consideration to modify their performance on the field. The different types of manipulation resulting from the combination of these elements should correspond to different sanctions: whether disciplinary and/or criminal, depending on the nature of the offence.

There are different ways to define the manipulation of sports competitions. The terms "manipulation", "fixed matches", "sports fraud" and "corruption in sport" or "arrangement" are also used interchangeably. In 2011, Gorse and Chadwick seem to have been the first to give a fairly broad definition to the manipulation of sports competitions: "any illegal, immoral or unethical activity that attempts to deliberately distort the result of a sporting contest (or any element of it) for the personal material gain of one or more parties involved in that activity" (Gorse and Chadwick, 2011).

In the same year, the Australian Sports Ministry gave a more complete definition in a press release from the Sport and Recreation Ministers' Council: "Match-fixing involves the manipulation of an outcome or contingency by competitors, teams, sports agents, support staff, referees or officials and venue staff. Such conduct includes:

a) *the deliberate manipulation of the outcome of a sporting competition or an event during the competition, or a point spread*

b) *an athlete's deliberate underperformance*

c) *conceding or letting go of an element of the competition*

d) *the wilful disregard by an official of the competition of the competition's rules*

e) *an interference in the game or on the playing surface via the venue staff*

f) *the use of inside information for a bet placed, or by a gambler who hired someone to manipulate the outcome or a phase of the competition."*

In January 2014, the Enlarged Partial Agreement on Sport (EPAS, Council of Europe) in turn proposed a definition that seems to suit the public authorities, the sporting movement and betting operators. The manipulation of sports competition involves "an arrangement, act or intentional omission aiming to improperly change the result or the

progress of a sports competition in order to totally or partially remove the unpredictability of that competition for the unwarranted personal material gain of oneself or others."

Types and modus operandi

As the number of cases of manipulation of sports competitions related to sports bets is constantly increasing, another classification is suggested, in which four different categories can be distinguished (A, B, C and D):

Table 8.1. Classification of sports competition manipulation

	Manipulations that do not include offering consideration to a participant in the competition	Manipulation including the offer of consideration to a participant in the competition
Manipulations unrelated to sports bets	(A) Example: sports arrangement ("Match of shame")[1] F.R.G Austria/football/World Cup 1982)[2]	(B) Example: corruption by bribes (Marseille/Valenciennes/football/ 1993)
Manipulations linked to sports bets	(C) Example: (To be confirmed: case under investigation) Agreement regarding the score at halftime (Cesson Montpellier/ handball/2012)	(D) Example: Organised crime and manipulation of matches[3] (*Calcioscommesse*/in football in Italy/starting in 2009)

Source: Sorbonne-ICCS (2014), Protecting the Integrity of Sport Competition: The Last Bet for Modern Sport, Sorbonne-ICSS Research Programme on Ethics and Sports Integrity, Paris, p.37.

The identification of these four categories of manipulations of sports competitions is not purely speculative. In fact, they make it possible to determine in which circumstances disciplinary law and criminal law can apply distinctly or together. It is important to distinguish manipulations that are not related to sports bets and manipulations linked to sports bets.

Manipulations unrelated to sports bets

There are two possibilities.

- The author of the manipulation was not offered any direct or indirect advantage by a third party: these cases clearly stem from a choice made by the sports actor, whether or not he or she can be punished on the ethical, moral, and/or disciplinary level. At the 2012 London Olympic Games, the Badminton World Federation disqualified eight players (four women's doubles pairs – one from China, one from Indonesia and two from South Korea) accused of "not having made their best efforts to win" group matches. Some considered this sanction too severe, since the players had acted in this way to preserve their chances of winning the tournament. Others considered that regardless of the players' goals, the event was not up to expectations, and that they therefore deserved a disciplinary sanction for "tanking".
- The author of the manipulation was offered a direct or indirect benefit: the situation involves corruption (active for the perpetrators and passive for persons who accept it or do not report it). Cases in this category are therefore covered by both criminal and disciplinary sanctions.

Manipulations linked to sporting bets

Here again, there are two possibilities:

- The author of the manipulation influences the course of the competition in the absence of any advantage: since it involves personal actions (whether acting alone or with other sports stakeholders, teammates, opponents or referees, for example), this situation constitutes internal fraud. It is generally difficult to suppress under criminal law because it is rarely clearly described in national criminal codes. Moreover, in practice, given the difficulty of proving that manipulation occurred, sanctions under disciplinary law may remain theoretical.

- The manipulation simultaneously incorporates elements of corruption, as seen in (B), and sports bets: sanctions can be imposed both through the criminal and disciplinary systems. A number of large cases of sports fraud revealed in recent years involving organised crime fall into this category: cases such as "Bochum affair" in Germany, "Mr. Ye affair" in Belgium and *Operation: Last Bet*, *Calcio Scommesse* in Italy.[4] Among the four identified categories, this type of manipulation is the main threat to the integrity of sport, since it directly challenges the sovereignty of sports authorities and the states concerned, and harms the public order. This is why some countries and territories have specific regulations on such offences in their criminal code.[5]

Manipulation can be carried out in order to gain a direct or indirect advantage for the perpetrator or for someone else, which itself determines the type of sanction that should be imposed:

- Manipulations unrelated to bets and with no direct advantage gained by the perpetrator or another person (example: an athlete already qualified for the subsequent stage of a competition voluntarily loses an event in order to avoid playing against a strong adversary at the next stage). These cases are clearly linked to the participant's sporting strategy, which may be sanctioned on ethical or moral grounds. These cases concern, at the most, disciplinary regulations.

- Manipulations linked to bets, but that do not involve something in return (e.g. an athlete who loses voluntarily because he bet on his defeat): this is internal fraud, difficult to sanction under criminal law in its current state, and particularly involves disciplinary law.

- Manipulations linked to bets and including the offer of a consideration (e.g. an athlete loses voluntarily to allow a third party who has promised him an advantage, so that the third part may win a bet): this type of manipulation represents a primary danger to the integrity of sports and falls under both criminal and disciplinary law.

Major known hubs and flows: A global phenomenon

A review of cases of the manipulation of sports competitions leads to the conclusion that these abuses are pervasive throughout the world. Certain disciplines of sport are affected more often than others, but as a whole this phenomenon threatens the economic and social integrity of competitions at the local, regional and international levels. Cases of sport manipulation involve all aspects of sport: athletes, agents, clubs, referees/judges, vendors, advertisers and leagues. The number and types of cases show that manipulation

of sports competitions is a global phenomenon and suggest that activities corrupting sports take place at all levels and across the community of sporting professionals. Furthermore, this manipulation is often instigated and/or controlled by external criminal individuals and groups who seek to profit illegally from sports. These external actors sometimes penetrate leagues and teams through ownership or contractual arrangements, to allow the manipulation. In other cases, these external criminal actors recruit internal members.

Football, at all levels, has the largest number of manipulation cases reported annually. Rampant football manipulation in Asia, recurrent problems in Italian championships and the famous "Bochum" investigation cases have gained notoriety. Manipulation scandals involving hundreds of matches have occurred in countries including, but not limited to, Finland, Australia, El Salvador, China and South Africa. Cricket faces the second greatest threat of manipulation, while cases have also been uncovered in snooker, basketball, volleyball, wrestling, motor racing, boxing, badminton and handball, among others.

These cases, however, probably represent only a fraction of the true incidence of manipulation. The lack of adequate fraud detection resources in some federations and weak surveillance of lower league, junior, women's and local competitions lead to the conclusion that cases of manipulation could be far more numerous than is currently acknowledged.

The number of cases reported within a region is not a reliable indicator of the effectiveness of regulatory regimes, because the true number of cases in each territory remains unknown. As with many other criminal statistics, the number of reported incidents is influenced by many factors, beyond the actual prevalence of crime. The fact that no fraud cases have been detected in certain states may mean that the state has taken effective preventive measures, but it may also indicate that it lacks an adequate means of detection and/or that reporting of incidents is implicitly or explicitly discouraged. Certain sports organisations are more inclined than others to make the efforts needed to stop acts of manipulation, and this, in principle, will help them detect more cases. A parallel can be drawn here with doping cases: federations that conduct very few drug tests uncover few cases of doping, which could suggest, erroneously, that the federations are not as affected by this phenomenon. While the number of reported cases merits examination, it is only one data point among many in evaluating the prevalence of manipulation in a given sport.

Where manipulation of sports competitions occur

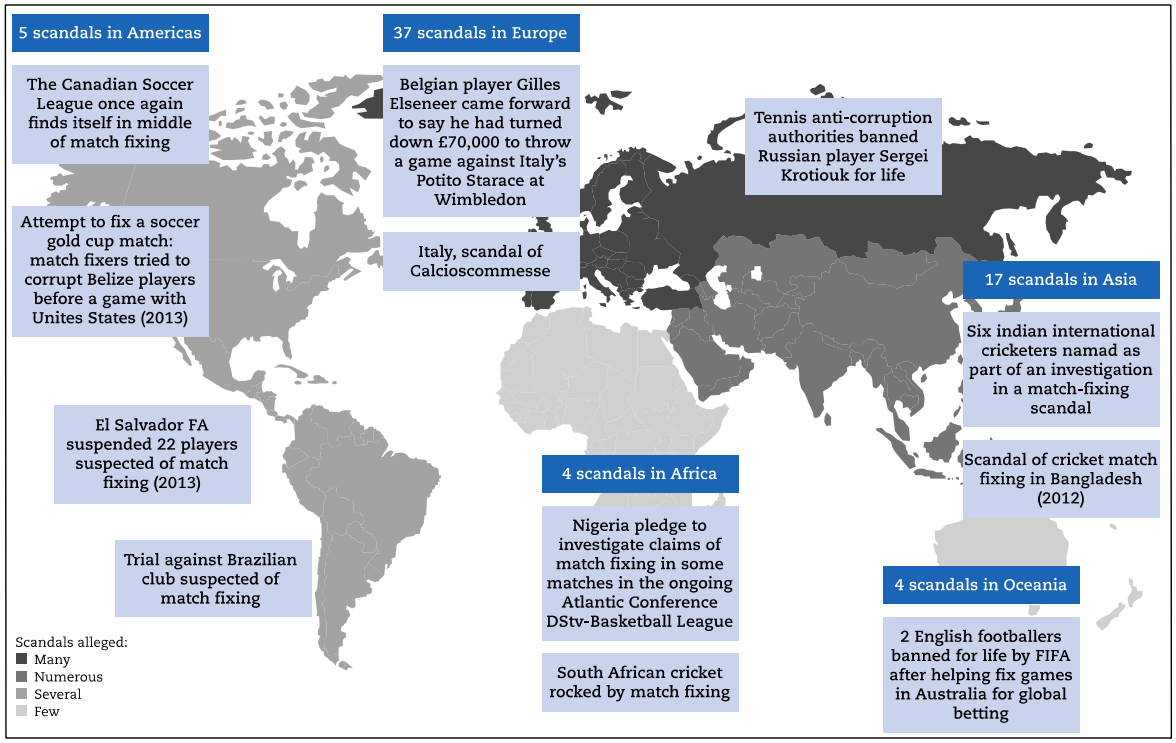
More cases of manipulation are reported or discovered in Europe than any other region. Football is the most seriously affected, but it is not the only such sport. Europe also has the greatest number of sports disciplines affected. Some of the most notorious manipulation scandals have hit some of Europe's most popular sports, and football, cricket and rugby matches have all been fixed. Furthermore, practically all sanctions imposed for manipulating competitions in less popular sports such as snooker and tennis have involved European athletes.

Asia has been most hit by the rigging of cricket matches and players. In 2013 alone, numerous investigations into national tournaments led to the suspension of a significant number of players in India, Pakistan and Bangladesh. While in absolute terms, the number of manipulated football matches in Asia is fewer than in Europe, the cases that affected Asian competitions were often found to have been almost entirely manipulated.

In terms of distribution across sports, many different sports in Asia have had instances of manipulation, but fewer than Europe.

In Oceania, sports manipulation cases have only been reported in football, cricket and rugby. In Africa, other than in football, only isolated cases have been uncovered in cricket, boxing and basketball. In the Americas, cases of manipulation were observed, for example, in baseball and basketball (North America), and football (Central and South America). Figure 8.1 provides a concise overview of the distribution of reported cases of the manipulation of sports competitions. It is not intended to be exhaustive, but simply to indicate trends. As mentioned, the reported cases are likely to be the tip of the iceberg. The number of cases of manipulation in 2013 alone is widely suspected to run into the hundreds or even thousands.

Figure 8.1. Global distribution of reported cases of the manipulation of sports competitions in the past 3 years



Source: Sorbonne-ICSS (2014), *Protecting the Integrity of Sport Competition: The Last Bet for Modern Sport*, Sorbonne-ICSS Research Programme on Ethics and Sports Integrity, Paris, p.6.

Consequences of the illicit sports betting sector

Economic impact: The increasing importance of sport in the global economy

Today, sport is an economically important and fully global activity. The sports market (excluding the parallel market of illegal sports bets) accounts for almost 2% of global gross domestic product (GDP). This has had major ramifications, some positive, others

less so. As sport became a global concern, so too did sports betting, which was transformed by, among other things, the growing complexity of the types of odds and the transformation of a market for amateurs into a market for professional investors. One key side-effect of this transformation was to turn the sports betting market into a vital support platform for money laundering.

Sport now constitutes a global economic activity and a market in and of itself. The available data, and in particular the introduction of high added-value commercial organisations that are replacing lower-value sports associations, are evidence of this. The size of this market and the advantages and drawbacks of enacting a legal framework for the sports market are worth examining.

In contemporary developed economies, sports markets have considerably expanded, often representing as much as 1.5% to 2.5% of GDP, i.e. a larger fraction of the economy than the textile, leather-footwear or steel industries. Sectors of this magnitude are rare. Sports-related markets form an industry or sector in which services (e.g. providing the possibility of practicing a sport, attending a sporting event and the products linked to it, for example televised sporting events and sports betting) account for a preponderant part of the sector, rather than physical goods (e.g. sports articles, sporting equipment). Most of these markets were transformed with the advent of the global economy in the past two decades, after which they acquired the status of global markets. In addition, various sports markets are in constant interaction, together forming the sports industry (or sports economy).[6]

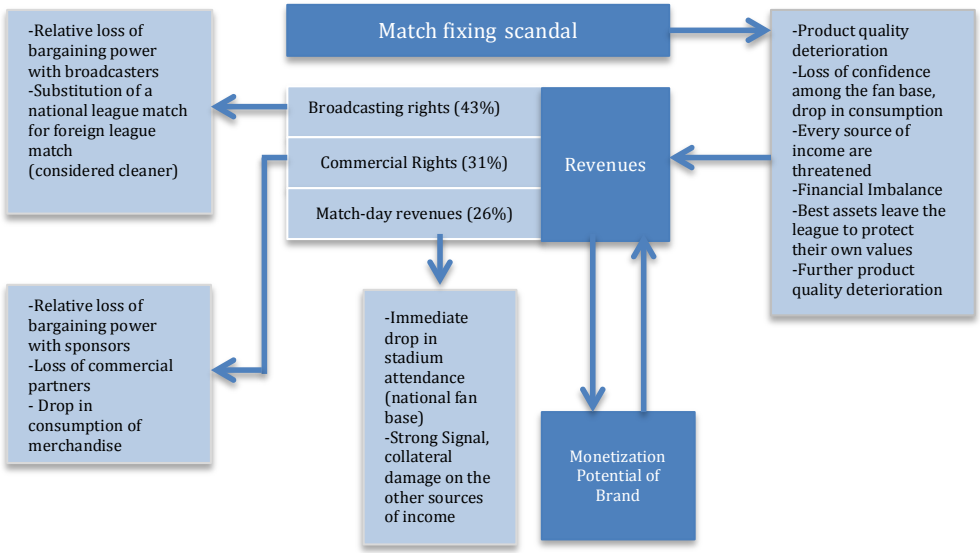
Sports markets develop as countries develop: their economic importance is considerable in developed countries, not as great in emerging countries and relatively low in developing countries. However, because there is no pre-established statistical and accounting framework for proven and collected data, no precise determination of such markets is possible. An estimate based on partial numbers provides an approximate scale of between EUR 800 billion and EUR 900 billion in 2011 (excluding the parallel market of illegal sports bets), which makes up between 1.7% and 1.8% of global GDP. In developed countries, the sports sector thus exceeds the textile and steel industries. If the weight of illegal sports betting is included, the volume of the sector is likely to rise by 20% to 50% based on conservative estimates, and by almost 100% on the basis of the highest estimates.

The most internationally relevant element of the sports economy is sporting events and their immediate derivative products, televised sporting events and sports betting. The annual number of international sporting events has risen dramatically: from 20 in 1912, 315 in 1977, and 660 in 1987 to 1 000 in 2005. Globalisation has also affected the sports sponsorship market and the market for the distribution of sporting goods.

The financing of large European football clubs has also become globalised. The prevailing model in European professional sports until the 1990s were clubs financed mainly by local or national sources: ticket office receipts, public subsidies, private donations, member contributions and sponsors. During this period, revenue obtained from television broadcasting rights constituted a minimal part of the financing – for example, 0% in 1971 and 1% in 1981 for first-division French football teams. This trend increased rapidly toward the end of the 1990s, first in European football and spreading to other popular sports (i.e. cricket, basketball, rugby and handball). Today, the primary source of financing in professional sports is the media, in particular broadcasting rights, followed by the investments of wealthy owners. Clubs have also developed sophisticated

merchandising operations, which, for example, represented up to 34% of Manchester United's revenues in 1998. Lastly, some clubs specialise in the training of promising amateurs, earning value from trading these players on the global market. Other clubs rely on the capital market by reorganising as joint stock companies and selling their shares on the market. All aspects of this financing model are becoming increasingly globalised. There is no longer an intrinsic link between the national affiliation of a large football club and its television rights, sponsorship and financial backing.

Figure 8.2. Negative demand shock: Impact of match-fixing scandal on a national federation



Source: Sorbonne-ICSS (2014), Protecting the Integrity of Sport Competition: The Last Bet for Modern Sport, Sorbonne- International Centre for Sport Security Research Programme on Ethics and Sports Integrity, Paris.

The globalisation of sport and its financial stakes, individually and collectively, produces a double effect: increasing the potential gains that can be achieved by manipulating sports competitions and incentivising efforts to control results in sports. This element of control undermines a core value in sports and game competition – the expectation that each team or player has a fair chance at victory, based on talent. The very fabric of the match is compromised, tainting both public and private expectations.

A transnational market of sports wagers of an estimated EUR 200 billion to EUR 500 billion

Since the 2000s, the sports betting market has, like traditional financial markets, become fully globalised. A bettor in one country can access an online betting platform located in another county to bet on the results of sporting events taking place in a third country in real time. For example, a Japan-based bettor can bet through a sports betting website based in Malta (which is considered illegal in Japan), on the number of corners in a Brazilian championship football match. This sports betting market is grafted onto sporting competitions of all levels, in all disciplines, from the most prestigious, such as

the Olympic Games, to the most modest, and from those with high stakes to those with almost none.

This hyper-globalisation, however, does not operate in an arena of regulations, controls and co-ordination between states. Sports wagers constitute *prima facie* a provision of services that is governed by the applicable law, whether the law of a given country, European Union law, or the law of the World Trade Organisation. However, in itself, it involves disparate national conceptions of public policy: not all states consider sports betting legitimate or legal. Those who accept sports bets while making efforts to regulate them must contend with the ubiquity of sports bets operators and consumers. In the end, all states facilitate the development of a transnational market of bets based on sports competitions held inside or outside their territory, and that legally or illegally, attract consumers located within their jurisdiction. Organisers of sports competitions have a limited or even no real understanding of how these events form the basis for sporting bets.

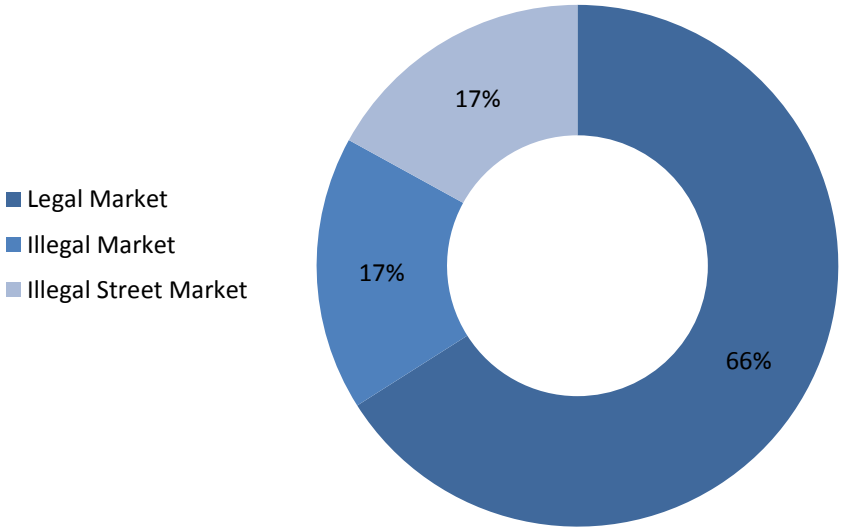
Globalisation has been exploited by those who contribute to the worst forms of financial and other abuses in sports. The fixing of matches seems to have evolved along with illegal international sports bets. Through international capital flows transiting or investing in sports and sports bets, money of questionable origin is being moved through global financial conduits to give it an appearance of legality. The opportunities for using sports as a vehicle for money laundering are multiplying.

Nexus with transnational organised crime

Illegal betting

A significant underground economy has developed around illegal betting. The sheer size of the market and the difficulty of detecting suspicious transfers within it have made it highly attractive to organised crime.

Figure 8.3. Distribution of sports betting market in 2011



Source: Sorbonne-ICSS (2014), *Protecting the Integrity of Sport Competition: The Last Bet for Modern Sport*, Sorbonne-International Centre for Sport Security Research Programme on Ethics and Sports Integrity, Paris, p.19.

The scale and dynamic nature of the Asian betting market creates conditions beyond the control of local and foreign authorities. The co-existence of legal, illegal and partially illegal operators confronts regulators with a complex task. It leads partially illegal operators to resist measures to regulate sports integrity, because they could negatively affect their profits. It also creates conflicts of interest, as illegal operators finance professional sports to gain legitimacy.

Criminals already attracted to tax havens are similarly drawn to the promise of profit in the growing number of countries that attract betting operators because of their low taxation regimes and weak regulation. The massive expansion of live betting makes it almost impossible to detect market movements and possible manipulation in real time.

Money laundering and transnational organised crime

Money laundering is another factor facilitated by the development of sporting bets.

Box 8.1. The ramifications of money laundering

What is money laundering?

Those engaged in illegal activities cannot fully benefit from their criminal profits if they are not able to justify the income. They are therefore obliged to integrate (or pretend to integrate) illegal income into the legal economy. In this sense, money laundering creates an organic link between the legal and the underground economy. For example, by injecting dirty money into an "official" business, organised crime syndicates make it possible for these companies to acquire large amounts of cash and make them more competitive with foreign companies.

Beyond the mere legitimisation of funds, money-laundering operations also help conceal criminal activities. If criminals can avoid showing any evidence of suspicious funds, they can escape detection by the public authorities. Laundering is essential for any illegal economic enterprise.

The money-laundering mechanism generally involves three stages:

Firstly, "placement", which allows illegal cash to be introduced into the financial system in the form of scrip. The conventional technique was to enter a bank with a suitcase full of cash and ask the clerk to deposit the funds in an account. The vigilance now demanded of banks requires criminals to find alternative methods. Generally, the money is passed through deposits in financial institutions, or by the purchase of different kinds of monetary instruments (traveller's checks, currency, bearer bonds) or in the form of tradable goods as monetary instruments (diamonds, gold). This is the critical step in the laundering process, since money loses its physical character, and is transformed into something less identifiable and more discreet.

The second phase involves "dispersion" (also known as stacking, or conversion), in which launderers multiply their financial transactions to hide the original source of funds and the identity of the real owner. These operations can be purchases and resale of fictitious goods and services, electronic fund transfers, financial transactions such as loans secured by the deposit of an equivalent amount in the bank's coffers, and false invoices. The offshore system of tax havens that do not inquire about the origin of the assets or their owners, or the activities conducted through their financial systems, presents many advantages for such operations.

Finally, the "integration phase" (or recycling) completes the laundering process. The funds that were illegally introduced and dispersed are then reinvested in the legal economy. These

cost-effective and legitimate investments may take the form of real estate projects, the purchase and sale of businesses, shares, etc.

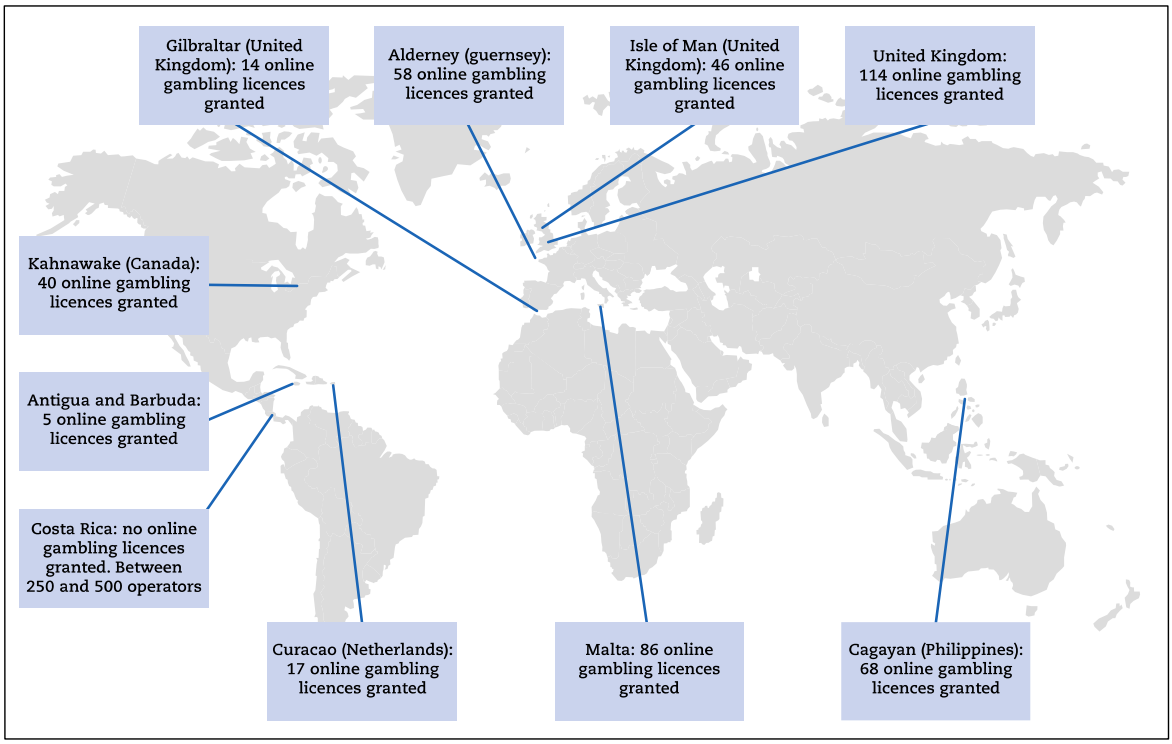
Source: Rodier, A. (2013), *Les Triades, la menace occultée*, Editions du Rocher, Monaco; Vernier, E. (2013), *Techniques de blanchiment et moyens de lutte*, third edition, Dunod, Paris.

Sporting bets, propelled by the development of the Internet, have undergone profound changes in the past 15 years. However, before the advent of "live betting" and "betting exchanges", the risk of money laundering was driven by the nature of the operators. Between 1995 and 2014, bets were handled in a small world of bookmakers and lotteries, where a few hundred organisations coexisted within delineated borders. Today, they involve a jungle of tens of thousands of operators, without borders, often with opaque structures in constant movement.

The main area of money-laundering risk linked to sporting bets concerns the regulation and supervision of the operators themselves. Mainly established in tax havens, which are now often also gambling havens, sporting bets operators regularly offer their services via the Internet without the required licences. Thus 80% of the today's global bets are illegal, which places sporting bets in a "deficient market" (Sorbonne-ICSS, 2012)

This problem is not specific to betting or gambling, since it results from the dual use by organised crime of offshore jurisdictions and the global reach of the Internet. Like gambling, many sectors are affected by the placing of an illegal tender on the market, starting with counterfeit drugs and luxury goods. However, the particularity of online games is that they allow the transfer of illicit money, in the form of winnings, to bank accounts in a well-regulated country.

Figure 8.4. Countries and territories with licensed online gambling (2013)



Source: Sorbonne-ICSS (2014), *Protecting the Integrity of Sport Competition: The Last Bet for Modern Sport,* Sorbonne-International Centre for Sport Security Research Programme on Ethics and Sports Integrity, Paris, p.13.

They can therefore be used to launder dirty money. Quite apart from the difficulty of tracing funds that transit between several countries, this phenomenon is reinforced by the fact that illegal betting is generally not an offence, much less a crime. For a drug dealer, this provides an ideal instrument: once potentially substantial gains have been laundered, there is little or no risk of getting caught and few or no deterrents.

Moreover, the Internet has more weaknesses than physical networks, in monetary terms. It is possible to launder money through illegal bets on the Internet, whereas dirty money in the street is much harder to launder, even if it is made with an unlicensed, bookmaker. Additionally, major instances of money laundering, of more than EUR 1 million, are difficult to organise through outlets. Indeed, the shops of physical operators, which are subject to various procedures, are primarily targeted to launder money derived from secondary offences: concealed work and minor instances of drug trafficking.

Anonymity is not everything, especially since the most responsible operators seem to have understood the scale of the risk: registration of winners above a certain level of earnings, identifying recurring winners, establishing classifications, etc. On the Internet, many operators do not seem to show the same professionalism, primarily because the competition is tough and because money launderers are in a sense ideal clients: they agree to regularly lose a lot of money without jeopardising the fixed-odds operator's financial interests. Only totally legal online operators (lotteries, PMU, SNAI, etc.) or those that

tend towards legality (Paddy Power, Ladbrokes, William Hill, etc.) agree, even if some of them have officially protested the draft of the 4th European directive against money laundering. Deficiencies or even violations of the regulations by other operators are innumerable: targeting bettors in countries where their operations are considered illegal, serious deficiencies in the verification of the identity of their customers, payments to offshore accounts without verifying the owner of the account, accepting payment methods favouring anonymity, average rates of return to players of above 93%, extremely high betting limits for "good customers", failure to report any suspicious activity to financial authorities, etc. The widely reported cases in the United States, the leading country in the fight against cybercrime linked to online games, demonstrate the seriousness of the phenomenon: many online betting sites helped launder money derived from "serious criminality," mostly through Central American sites. In this context, the examples of Beton Sports and Legendz Sports should be noted (Kalb and Verschuuren, 2013).

In addition, it appears that the fight against money laundering, a challenging task, is similarly difficult for betting operators. Anti-money laundering is not a priority for most national sporting bets regulators, which lack both the means and the expertise to handle this complex and emergent subject. This is an almost impossible challenge for police units specialised in cybercrime, who face lack of co-operation from some countries and also the boundless ingenuity of organised crime, whose members have mastered the assembly of intricately camouflaged, multinational business structures. Moreover, it is difficult to criticise some betting operators, who, even when subjected to real controls, do not always contribute actively to the process of eliminating illegality. From their perspective, the competition is tough, especially when it is illegal, and making too much of a fuss would simply entail leaving some "risky customers for the less scrupulous neighbouring operator". That being said, banks face, and meet, similar challenges, and betting operators should be strongly encouraged to maintain a similarly pro-active approach.

The clandestine nature of money laundering and the opaque structure of sporting bets make it difficult to determine the amount of money laundered. It is, however, plausible that, as asserted in a recent study, up to USD 140 billion per year is laundered in this fashion.[7] This would mean that over 10% of global revenues of organised crime are laundered through sporting bets.

Given its complexity, the problem of money laundering linked to sports bets must pass a thorough examination of the industry itself: do governments want their citizens to gamble for fun, as a recreational activity? If so, they must adapt sporting bets products to promote recreation rather than business, starting by capping the rate of return to players and the level of wagers, so as to return to more "reasonable" bets. Conversely, if the prospect of a market of professionals does not give them pause, they will need to clarify the boundaries of an industry that requires the establishment of some rules and regulations. Otherwise, given the risks inherent in the business, not to mention the losses in tax revenues, some governments may unintentionally provide opportunities for criminal networks. Indeed, money laundering poses a real threat to national governments because it is directly proportional to domestic criminal activity. Finally, we must not forget that money laundering is a global and systemic phenomenon. Sporting bets, and gambling more generally, are but one link in the chain. As the backbone of the financial system, banks will continue to be the key instrument of detection, since any attempt to launder money must, at some stage, transit through them.

Box 8.2. Case study: how online unlicensed gambling works

A Malaysian national, was recognised around the world as a high-roller, a poker star with an enormous bankroll (allegedly between USD 300 million and USD 400 million), playing for the highest stakes. In 2014, the suspect, his son and six others were arrested and charged with one count of unlawful transmission of wagering information and one count of operating an illegal gambling business. Authorities believe the suspect is a high-ranking member of the Hong Kong-based 14K Triad, and to have run a billion-dollar illegal gambling operation from Caesars Palace in Las Vegas.

His illegal operations were uncovered when casino personnel were asked to set up an unusually large amount of electronic equipment and technical support at a residence in Las Vegas, Nevada. During setup of the equipment, casino personnel noticed similarities between the screens and those at the casino's sports book, as well as displays of betting odds for gambling websites that were illegal in the United States. Further investigation by the Nevada Gaming Control Board determined that the technical setup set the stage for an illegal wagering operation. The Gaming Control Board worked in conjunction with undercover law enforcement agents until 9 July, when agents raided the premises and recovered gambling records, computer equipment and other items.

It later emerged that he was allegedly placing bets using SBOBet, an online betting platform registered on the Isle of Man, and IBCBet, which is based in the Philippines. Court documents reveal that he told police that he had investments in IBCBet, and his son revealed that the suspect actually owned the website, considered by industry sources to be Asia's largest online gambling website. Neither website is licensed to operate in Nevada. This was not the suspect's only brush with the law. He was arrested on 18 June 2014 in Macau, along with more than 20 others, for operating an illegal sport gambling business.

Responses

Measuring the effectiveness of existing policies: monitoring the fluctuation of odds

Monitoring systems designed to identify suspicious fluctuations of odds (such as the BFDS27 of SportRadar) make it possible to identify anomalies and to alert public and/or sports authorities to possible manipulations. However, these alert systems have almost never led to convictions; conversely, only a small number of the sports fraud cases resulting in convictions were initiated because of such alerts. Unlike their counterparts in the financial markets, these alert systems do not have access to betting volumes. Given these conditions, it would seem difficult to achieve more than a state of heightened suspicion. At the same time, betting operators are developing their own internal monitoring systems to control financial counterparty risk linked to odds betting. These operators have the advantage of integrating precise information on the distribution of the volume transiting through their network, starting with the identity of their clients. They are thus in the best position to judge the integrity of bets placed by their clients on their own platforms.

However, by avoiding operators known for their advanced detection mechanisms and by carefully spreading their bets between several operators, it is not difficult for criminals to circumvent this risk in a betting market that lacks transparency and is ill-equipped to combat this type of manipulation in a co-ordinated fashion. Real-time monitoring of live bets would require significant resources, beyond the reach of some bookmakers. Still,

dismantling alert systems would certainly lead to an increase in fraud cases. Monitoring systems are therefore necessary, but not sufficient.

Public policies against illegal betting

The public policies concerning sporting bets, the instruments necessary for combating illegal bets as well as the regulatory framework imposed on the market and monitoring of sporting bets and operators, can be divided into three broad categories:

- For certain countries, sports bets – and more generally online games – are considered to be a bonanza that creates jobs and significantly increases public revenue. The Cagayan province in the Philippines, Gibraltar and Malta, for example, fall within this category;
- For other jurisdictions, sports bets constitute public and social risks that should be strictly managed. China, the United States and Switzerland take this stance.
- For others, sports bets are considered a socially accepted practice that should nonetheless be regulated.

Beyond their willingness to combat illegal betting, it is useful to classify countries according to the priority they give to sports integrity. Such classification could include: laws providing for punishments for the offence of sports fraud, prohibition of participants from betting on the sporting events in which they take part, restrictions on sports bets (types of bets authorised, imposing limits on rates of return as well as bets), exchanges between betting operators and the sporting movement, and financial contributions from betting operators for the protection of sport integrity.

Establishing authorities to regulate sports betting

Beyond the essential need for regulatory authorities dedicated to the regulation of sports bets, effective powers and tactics are also critical. A review of measures and tactics currently in use indicated that the following are be effective:

- Injunctions addressed to illegal sites.
- Drawing up a black list of illegal operators.
- Blocking illegal sites (via Internet Access Providers).
- Blocking the payment of winnings made through an illegal provider.
- Prohibiting advertising of and by illegal operators.
- The principle of mutual exclusion: the public authorities in charge of regulating bets can decide not to grant a national licence to an operator that does not comply with the rules established in another state; they can also decide to revoke an operator's licence if the operator commits illegal acts in another country.
- Establishing an offence for illegal bets: in this case, betting on an illegal website is criminally reprehensible; therefore, the individual is responsible for identifying legal/illegal websites and not betting on an illegal website.

Search engines in the fight against illegal betting

Practices in the field of combating illegal bets have been set by Belgium, Israel and the United States. Although the mechanisms put in place in these countries have proved to be efficient, the case law of the Court of Justice of the European Union (CJEU) on the limitations concerning the requirements of the Member States regarding Internet Access Providers (IAPs) are worth noting. The advantages granted by the Court to the IAPs through these two decisions could in fact restrict the possibility of blocking procedures favoured by the public authorities.

Repressive measures and potential sanctions seriously limit the number of illegal bets. This is the case regardless of the regulation model used (US: prohibition; Israel: monopoly; Norway: licences). This conclusion is important because it represents a clear response to the preferred argument of illegal operators. These operators maintain that since no blocking measure is entirely effective, states should accept all operators that are granted a licence somewhere (even in a tax or betting haven). While it is true that no technical measure can completely eradicate illegal operators, especially given the creative measures used to circumvent regulation, regulatory models do exist that can dramatically reduce the presence of illegal operators.

Of the methods listed above, four are critical, foundational pieces of a regulatory strategy. In order of implementation priority, they are:

- the principle of mutual exclusion (a sports betting regulator can decide to grant a licence only to operators that are not listed on the blacklist of any countries);
- blocking payments through an indirect approach, as is done in the United States (the responsibility for results is thus transferred to financial and other related institutions);
- establishing a blacklist (not public) of illegal operators and blocking their websites;
- prohibiting the advertisements of illegal operators, subjecting media outlets to heavy fines for accepting to sell advertising space to these operators.

Improving tools adopted through the initiative of betting operators and sports institutions

Certain European Lotteries (EL) have created, since 1999, a sports betting monitoring system capable of detecting certain irregularities on the market. Their example was followed in 2005, by ESSA, an association of private operators, which developed a similar system and concluded several agreements with sporting federations, in order to generate alerts in cases of suspected manipulation. These monitoring tools need to be perfected. When issues linked to the manipulation of sports competitions became a major subject for the future of sport, the two groups of operators (the lotteries on the one hand, and bookmakers and pure players on the other) each developed codes of conduct to control the risks of manipulation linked to sporting bets. The lotteries' codes of conduct aims to defend a regulated gaming model, where betting formulas remain reasonable and are designed for bettors who wager on a casual basis. They also explicitly stress the necessity to take firm action to combat illegal bets. For the members of ESSA, EGBA or RGA (associations of private operators), who sometimes operate without authorisation in the jurisdiction of the consumer where they sell their products, the first concern is protecting the consumer from risks of fraud and creating monitoring and internal control

tools. Expertise is also crucial. Therefore, betting operators must co-operate with sports entities to train and inform their members.

Developing instruments for prevention, information and education

Among the methods likely to decrease risks of manipulation of sporting events, prevention and information are vital. They are simple to put in place, efficient and directly operational. The risks that, for example, an "educated" athlete or referee will become involved in fixing a sporting event are greatly reduced. Prevention and education are the key tools that can produce results in the short term.

Increasingly diverse actions

Today, the range of preventative actions used by the various stakeholders is becoming more diverse. While not exhaustive, the following includes various actions that may be taken, some complementary.

- organising and co-ordinating actions (unit dedicated to sport integrity, network of trainers, etc.);
- adapting sports disciplinary procedures (models, conflict of interest rules, etc.) and codes of conduct;
- informing sports leaders, public authorities and targeted individuals (for example, media outlets);
- in-depth training of trainers;
- preventive actions destined for sports participants (face to face, e-learning, interactive fora, using social networks, practical guides, etc.);
- communicating with the public;
- other actions (studying the behaviour of sports participants in connection with fixed matches, ombudsman, etc.).

It is worth noting the motivations for preventive actions: anticipating risks, reaction times for concrete problems, improving image, seeking financial resources, etc.

Recent awareness and education programmes

The ICSS-Sorbonne report attempted to analyse the main measures known to be in use to raise awareness of sports manipulation and identified about 60. Campaigns aimed at prevention and information are a recent phenomenon; 60% of the programmes identified were launched after 2012, and more than 75% after 2011. This can be explained by the fact that most of the large scandals were uncovered fairly recently. The trend is clear: most organisations develop programmes in response to a widely publicised case and not as a preventive measure.

North America was the first continent to set up preventive and educational measures to promote integrity in sports. However, since 2010, after repeated scandals, Europe has also established educational programmes on the manipulation of sports competitions and sports bets. More than 40% of the operations in Europe concerned football, tennis, cricket and rugby. Not surprisingly, football and the multisport and government organisations (the International Olympic Committee [IOC], SportAccord, the Australian government,

National Olympic Committees, etc.) each represent one-third of the preventive actions established for sport integrity.

Improving the governance of sports organisations – a new priority

Potential flaws in the governance of sports institutions could directly or indirectly increase their vulnerability to manipulation of sports competitions. This could either be directly, by not protecting them against risks that corrupting agents may influence organisations or individuals, or indirectly, by preventing them from either initiating the fight against the manipulation of sports competitions (by not sufficiently responding to them, for example), or from conducting an effective fight, because of a lack of legitimacy.

An analysis of risks linked to the governance of sports organisations that are likely to affect sports integrity identified the following risk factors:

- control of the organisation by organised crime
- financial difficulties of the organisation
- denying a situation from fear for the organisation's image in the event of a scandal
- lack of interest in sports integrity issues; operational difficulties in the management of integrity issues (including a lack of responsiveness)
- favouring short-term objectives to the long-term interests of the organisation
- isolation of the sports organisation from the public authorities (thus running the risk of insufficient reaction)
- dilution of responsibilities between the stakeholders of a given sport on the subject of integrity (rising an inadequate reaction)

As with public authorities and other private organisations, sporting institutions are required to observe good governance that is based on three principles: responsibility, transparency and participation. These principles develop into a series of more concrete requirements (legitimacy of the organisation's managers, development of a strategic perspective, taking into account the views of all the members of the institutions as well as external stakeholders, instituting appeal mechanisms, transparency of the decision-making process, the responsibility of decision makers, combating sports manipulation and conflicts of interest, complying with the fundamental rights and economic liberties of private persons, etc.). Certain specificities of the sporting movement have a direct impact on its governance. The main sporting institutions are simultaneously regulators and principal economic agents. They are generally concerned with adopting norms and decisions that help regulate their sport, but also with the advancement of their own economic and commercial interests. Sports organisations have varying objectives and differ widely in financial results, number of licensees, sporting results, etc., making a uniform approach difficult.

Several studies have already noted flaws in the governance of sports institutions, whether in general or in particular. In the fight against the manipulation of sports competitions, they can be prone to stalemate, a lack of responsiveness and transparency and a certain paralysis in the decision-making process. Whether spontaneously or through

external pressure, certain sporting institutions have adapted their systems of governance as their functions and public opinion and regulatory requirements evolved. Examples include the adoption, in 2008, of the Basic Universal Principles of Good Governance of the Olympic and Sports Movement by the IOC. This illustrates the indirect impact of good governance, that targeted measures can only produce results if they are coupled with sound institutional structures. Another instance is the Union of European Football Association's rules on financial fair play, which were enacted on 1 June 2012. This shows the more direct impact of good governance in neutralising a precise factor capable of encouraging the manipulation of sports competitions, because the rules on financial fair play are designed to avoid late payments of salaries by clubs to their players (a key risk in sports fraud).

On the basis of the analyses in the ICSS-Sorbonne report and the recommendations given (for example, in resolution 1875, adopted on 15 April 2012 by the Parliamentary Assembly of the Council of Europe), several good governance measures that may help counter the risks mentioned above can be suggested:

- The integrity of sporting directors should be guaranteed, because the ethical competence of sports institutions can be compromised by the election procedure and functioning of the decision-making bodies;
- The managing bodies of a sport organisation should adopt a pro-active and preventive strategy, rather than a reactive one;
- The financial risks of sporting structures that can be required to remunerate athletes should be managed;
- The operations of managing bodies of sporting federations and leagues should encourage sports integrity;
- Each sports organisation should establish a classification of risks, primarily integrity risks, with a long-term perspective and a procedure for managing incidents;
- Each sports organisation should be mandated to establish an integrity committee with real authority;
- Integrity should be included in the statutes and regulations of national and international sporting federations and leagues.

Conclusion: What policy should be advocated, and why?

While many stakeholders in the sports industry now acknowledge the scale of the threat, a co-ordinated, pro-active response has remained elusive. The disparate efforts of sporting bodies and governments to confront the challenge have not kept pace with criminal innovation. It has, however, created a better understanding of which policies can be effective. Implementing the right policies against illegal betting and the right frameworks for sports governance are prerequisites for addressing sports manipulation. The unique conditions of each sport, country and sporting body make a uniform approach difficult, but co-ordination on a global scale can help overcome these challenges, linking disparate efforts and offering sport protection against a globalised adversary.

Combating illegal betting is a public policy issue at all levels. Regardless of a country's regulation model and tax level, it is very difficult today to eliminate illegal bets. On a technical level, it is difficult to block all illegal sites, as well as the payments of illegal financial transactions linked to bets. In addition, numerous countries have not yet clearly defined the legal contours of Internet screening, since the Internet remains a young and dynamic medium. Lastly, combating illegal bets is not typically included among government priorities, given competing threats such as terrorism. While the complete eradication of illegal bets does not seem feasible, countries that have recognised the danger of illegal betting and mounted campaigns to combat it have obtained significant results.

By contrast with reactive measures, prevention initiatives targeting bettors and offenders, police action and co-operation with financial institutions have noticeably reduced the number of illegal bets. The most effective preventive and educational measures to promote integrity in sports requires, at least at the national level, co-operation between public authorities, the sporting movement and betting operators. In addition, sports leaders should be trained to anticipate risks to sports integrity.

In each sports organisation, information communication on the subject of sports integrity should reach all the stakeholders in the sport. These organisations should also decide who will perform this training and modify prevention programmes, as well as the best means of communication. A mechanism for evaluating the results obtained should be set up to adapt preventive programmes.

Lastly, the preventive actions undertaken, and the results obtained, should be made known to the public and media. Actions involving fans and supporters should also be encouraged.

Notes

1 This "match of shame" was held in Gijón, Spain, on 25 June 1982. As explained by Albrecht Sonntag in an article published on 23 June 2014 in Le Monde entitled: "Mondial 2014: Allemagne-États-Unis, le prochain "match de la honte": "The Austrians and Germans, once the score opened by Hrubesch in favour of the Germans, simply stopped playing after 75 minutes. Helpless victims of the masquerade, the Algerian players in the gallery waved money as a sign of disappointment. Never again! It is in this spirit that the German manager Hermann Neuberger, who was then vice president and head of the Organising Committees of the World Cup at FIFA, determined, as a result, that the last matches of the group stage should take place simultaneously. Changes were implemented as of the next edition. Nevertheless, the arithmetics of sports rankings still do not rule out the possibility of finding oneself in circumstances that are favourable for certain teams but bad for others. What can, or what should the German and American teams do next Thursday? Attack at any cost, while risking losing their place in the knockout stages due to counterattacks late in the game? Sports ethics would allow it, while professional opportunism would prohibit it. As Alain Cayzac wrote in his recent book Petits ponts et contre-pieds, players in 1982 committed 'a professional faux pas by not taking the context into account'. The qualification of manipulation retained for such behaviour could be challenged. In fact, again according to Albrecht Sonntag, concerning some of the players who participated in this match, "they actually felt that the situation was uncomfortable, but (...) a prior

arrangement was not necessary for all the world to bend to "constraints" and demonstrate "professionalism". But according to other sources, after the halftime, the German player Paul Breitner approached the Austrians to ask them not to try to equalise. The pact was therefore concluded after halftime. Some also refer to a "pact of non-aggression". In our search for categorisation, the existence of an explicit agreement is essential. If the pact is implicit, in the absence of a formal agreement, it is difficult to speak of "manipulation". It should be noted that "manipulation" and "corruption" are two different concepts.

2 During the 2014 World Cup in Brazil, questions were raised about whether such a scenario would be repeated at the 26 June match between Germany and the United States. A draw would have allowed both teams to qualify for the knockout stages at the expense of Ghana and Portugal, which competed at the same time. Before the game, several articles discussed this possibility.

3 Such cases are unfortunately taking place more frequently. For recent examples, see the case of the professional football player sentenced to 30 years in prison by a court in Viet Nam (www.bigstory.ap.org/article/9-footballers-face-match-fixing-trial-vietnam) or the case of the Australian coach Zia Younan, sentenced to four months in prison with reprieve and a fine of AUD 3000 (www.theguardian.com/sport/2014/aug/04/football-players-who-botched-matchfixing-result-told-it-was-life-and-death).

4 These cases involved charges of match fixing in professional football and placing bets placed on the designed result.

5 In their criminal code, as in France (corruption – active or passive – of sporting bets, Articles 445-1- 1 and 445-2-1 of the Penal Code), Bulgaria and Spain, in their sports code, as is the case for Cyprus, Poland and Greece; or even in their special criminal codes (Italy, Malta and Portugal).

6 Economics of sport as understood in academic education and research is designated as "sports economics" (sports economic analysis or "science").

7 Estimate provided on several occasions by Valérie Fourneyron, French minister of Youth and Sports from May 2012 until March 2014. See her interview with the newspaper Corsematin.com of 7 February 2013: "In 2011, Interpol estimated that mafia networks used bets to launder USD 140 billion per year".

References

Cayzac, A. and G. Évin (2014), "Petits ponts et contre-pieds - Histoires insolites sur les 20 coupes du Monde", *les souvenirs de 40 grands témoins*, Éditions du Moment, Paris.

Gorse, S. and S. Chadwick (2011), *Prevalence of Corruption in International Sport, a Statistical Analysis*, Coventry University Business School.

Kalb, C. and Verschuuren (2013), *Blanchiment d'argent, un nouveau fléau pour les paris sportifs*, Iris, Paris.

Rodier, A (2012), *Les Triades, la menace occultée*, Editions du Rocher, Monaco.

Sorbonne-ICCS (2014), *Protecting the Integrity of Sport Competition: The Last Bet for Modern Sport*, Sorbonne-ICSS Research Programme on Ethics and Sports Integrity, University Paris 1 Panthéon-Sorbonne and the International Centre for Sport Security, Paris.

Sorbonne-ICCS (2012), *Working Session of the Sorbonne-ICSS Programme on Ethics and Sport Security*, Sorbonne-ICSS Research Programme on Ethics and Sports Integrity, University Paris 1 Panthéon-Sorbonne and the International Centre for Sport Security, Paris, pp. 6, 13, 19.

Vernier, E. (2013), *Techniques de blanchiment et moyens de lutte*, 3rd Edition, Dunod, Paris.

Public Governance and Territorial Development

www.oecd.org/gov