THE ECONOMIC IMPACT OF COUNTERFEITING AND PIRACY

PART III: INDUSTRY SECTORS

DRAFT
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THE INDUSTRY SECTOR OVERVIEW

Objective

0.1 The purpose of preparing a series of industry sector reports was to use the experience of various industry sectors in their fight against counterfeiting and piracy to provide a practical snapshot of the specific circumstances in which they operate to supplement the general analysis undertaken in the report proper.

0.2 The industry sector reports should be read in conjunction with the main report, as they were never intended to be exhaustive, stand alone analyses of these industries.

What industry sectors are covered?

0.3 Sixteen industry sectors were identified as being significantly exposed to counterfeiting and piracy. These sectors were not systematically derived, and do not conform to any international classification system, but they do cover a very significant (perhaps even overwhelming) proportion of all manufactured goods.

0.4 In keeping with the coverage of the principal study, only sectors that produce “physical” goods were covered; therefore neither services nor intangible products (such as the digital files exchanged over the Internet or by other electronic means) are intended to be covered even if they may fall within a broad definition of that industry sector. Music, film and software are examples of where this distinction would be important.

Selection of Sectors for coverage

0.5 The 16 sectors identified, and those selected for further study, are shown in the Annex to this summary report.

0.6 The list of 16 had to be trimmed down, because it was physically impossible to cover all of the sectors with available resources. The selection of sectors for further study was based on a number of criteria:

- The first criterion was that those sectors in which there were public health and safety issues to consider would receive priority as candidates for the sector studies.

- The second criterion was that because these sector studies were intended to reflect industry experience, then industry co-operation was crucial; therefore the choice of sectors reflects to some degree the willingness of industry to participate and to provide information and data.

- The third, as a less important criterion, sectors where there was large amounts of information available from other sources were also favoured for further study.
Information and data used in the sector reports

0.7 As snapshots of industry experience with counterfeiting and piracy, the sector reports rely heavily on information, data and perspectives provided by the industry sectors themselves. Readers should note that neither the appropriateness of methodology used to derive data, nor the accuracy of the data provided by the industry, were verified by the OECD.

0.8 The information from industry was collected by way of a detailed questionnaire sent to peak industry bodies and major companies in the respective sector identified by the industry co-ordinating body for this project (Business and Industry Advisory Committee – BIAC). This was supplemented by direct correspondence with individual respondents from various bodies and firms. The majority of the information was provided to the OECD on a confidential basis, and this is reflected in the sector reports themselves, where firms or brand names are generally not named.

0.9 On some occasions, the industry information was supplemented by information and data from other sources. Where this has occurred, the source of that information is cited.

Key points to come out of the sector reports

Common experiences

0.10 The sector reports were prepared with the deep involvement of the industries concerned, so that the material they contain was drawn from their research and on-the-ground experience. While the material and data provided by the various industry sectors was not collected or presented in identical fashion, there was sufficient commonality for the sector reports to be presented within a consistent framework, and this allowed the drawing out of a number of common experiences across the sectors investigated.

0.11 Briefly, these common experiences were:

Almost anything can be counterfeited

0.12 The sector studies highlight that counterfeiters are clever, skilled and very professional in the way they carry out their businesses. Each industry has provided examples of items that have been successfully counterfeited; including some that require substantial investments as well as fabrication skills (the range of automotive spare parts counterfeited is an example).

Health and safety is at risk

0.13 Special emphasis was placed on sectors where there were health and safety issues to consider, such as food and drink, pharmaceuticals, automotive spare parts and electrical components. The experience of these industry sectors is worrying, as the common experience has been that counterfeiters will copy anything where there is a profit to be made, and these fakes are frequently below standard. In addition, all sectors reported that counterfeiters were becoming very adept at making fakes look like the real thing, in order to deceive consumers. Even security holograms have been reported as being counterfeited.

0.14 Substandard items in these sectors could cause deaths, illnesses, injuries and property damage, and this injects an even more serious public health and safety dimension that goes beyond concerns with IP rights. For example, instances of medicines, car parts and spirits have been found which are clearly fakes, even though they avoid the label of counterfeiting by not infringing trademarks, patents or registered designs.
Infiltration of legitimate supply chains

0.15 A worrying thread that emerged from those industry sectors which were subject to deceptive counterfeits (and especially those with health/safety issues mentioned above) was that there were an increasing number of instances where counterfeited goods were infiltrating legitimate supply chains. For example fake auto parts were found in otherwise legitimate repair shops, counterfeited pharmaceutical products at chemists and food products on supermarket shelves.

0.16 This is a trend that moves counterfeiting away from any notions that it is a relatively harmless and perhaps “victimless” activity, and entrenches it as a serious and perhaps sometimes deadly crime.

0.17 The infiltration of legitimate supply chains is not always easily achieved, and requires resources, organisation and even criminal “skills”. Organised crime has these attributes (as well as access to bribes and coercion), and there are numerous comments on the involvement of organised criminal gangs in all of the sectors, but especially those that deal in potentially deceptive goods.

Distribution and logistics can be complex

0.18 It is one thing to manufacture counterfeits (which itself requires investment, skills and fabrication capacity) but quite another to transport the items to their most lucrative markets.

0.19 The logistics of moving and distributing counterfeited and pirated goods to their markets are almost always complex, and highlight the resources and skills available to those who engage in these activities.

0.20 Second, the industry sectors that we examined noted that on many occasions goods are transported on normal transport routes, in containers or (less likely) as air freight, with goods accurately described (but obviously not as fakes!) and supplied with appropriate paperwork, such as Bills of Lading. This makes it more difficult for customs authorities (and even IP owners) to identify counterfeited items.

0.21 A number of industry groups noted that the complexities of these logistics create an opportunity for organised criminal gangs to become involved in the counterfeiting and piracy chains.

0.22 However, long and complex logistic chains also create opportunities for authorities (especially customs) to interdict these counterfeited and pirated goods.

Importance vs. Priority

0.23 From an industry perspective there is frequently a difference between the importance that governments attach to counterfeiting and piracy, and the priority given to relevant authorities (such as police, customs and prosecutors) when resources are allocated, and there seems to be some logic to explain their experiences.

0.24 For example, it would be understandable when resources are allocated if a greater proportion was allocated to those areas that dealt in the more serious illicit activities, such as drugs, weapons and people smuggling or even for goods that avoid excise. As a serious, but “less serious”, crime counterfeiting and piracy could find itself towards the tail end of the resource allocation priorities lists.

0.25 Within the resources allocated to counterfeiting and piracy, there is also a logic for a pragmatic (if not intentional) hierarchy. For example, efforts to uncover pharmaceutical, food and drink, car parts and other items which have potential health and safety risks may have greater access to resources than the more innocuous items, such as CDs, DVDs and t-shirts.
0.26 These priorities are matters for governments, and it is up to them to decide how to spread their resources, but it is nevertheless worthwhile at least noting that in the experience of industry there is a clear difference between importance and priorities.

Are laws enforced effectively?

0.27 All of the industry sectors reported that in their experience even when adequate laws exist they are not always effectively applied. From the industry perspective this leads to difficulties in identifying and apprehending possible counterfeiters and pirates, delays in prosecutions reaching courts, and inadequate penalties applied even when convictions are obtained. In turn this hampers efforts to deal with counterfeiters and pirates, and leads to high levels of repeat offenders.

0.28 Some industry sectors have suggested that local or regional governments, and especially those in depressed regions, see counterfeiting and piracy as tolerable (if not entirely appropriate) activities that provide employment and bring income to the area, and so are less likely to act effectively than central governments. It is stressed that no empirical evidence was presented to support these claims, and they remain anecdotal and drawn from reported experiences of industry groups and firms that play an active role, especially in producing locations.

Cost of remedies is increasing

0.29 A point frequently raised by industry, and recorded in the sector reports, is that the cost to industry of detecting and dealing with counterfeiters and pirates is high and growing. A scan of industry groups set up specifically to deal with counterfeiting and piracy, let alone the efforts of major corporations to protect their brands and products, is sufficient to highlight that industry considers these to be serious problems, and are willing to expend considerable resources to combat them.

Government revenues are at risk

0.30 As well as losses incurred by IP owners and consumers, there are also substantial losses (largely unquantifiable) in government revenues; costs which eventually are borne by the public at large. Such losses are incurred whenever counterfeited and pirated goods avoid paying taxes, charges and fees that are borne by the legitimate products. These losses become particularly important when the goods concerned are subject to substantial excise taxes, for example tobacco and alcoholic products.

0.31 In addition to revenue losses, the avoidance of these excise taxes, by reducing the retail price of those commodities to consumers, can also negatively affect government public health programmes aimed at reducing the consumption of alcohol and tobacco (especially by minors).
CHAPTER 1. AUDIO AND VISUAL SECTORS

General description

1.1 From the outset, it is noted that in accordance with the OECD Council mandate for the overall study, this sector analysis will cover only piracy that culminates in the production of a physical product such as a CD, a DVD, or (these days increasingly less likely) a music or VHS cassette; that is “hard media”. What the Council mandate calls the piracy of “digital content” (that is, “non-physical”) whether over the Internet or by other means, will be considered separately in Phase II of this project.

1.2 It is understood that in common industry terminology the term “digital” is used to describe the binary (as opposed to the analogue) format of storing data, and that this format is used in the storage and transmission of all computer data, CD/DVD content as well as files and other content available on the Internet. Therefore, the use of the term “digital” could cause some confusion in instances (such as music contained on a CD) where the content is both digital and stored on hard media. To avoid any confusion, in this sector report (and by implication in Phase II of the overall Counterfeiting and Piracy study), the term “digital content” or “digital piracy” specifically refers to content that does not involve the use of hard media as means of passing pirated content from pirate to customer.

1.3 Nevertheless, while this sector report covers only physical piracy, some references to digital piracy will be found where there are aspects of that form of piracy that are inextricably linked to piracy using hard media; for example, in instances where it has been impossible to disaggregate the different forms of piracy in otherwise useful data. Such instances are specifically identified in the study.

1.4 Two other points regarding this separation between physical and digital piracy should be kept in mind. The first is that because this study covers only physical piracy, it will understate the full extent and effects of piracy in the music and video sectors. The second point is that it should be recognised that the problem of separating data and information will also exist when Phase II covering the piracy of digital content is undertaken.

1.5 In addition the OECD considered some aspects of digital piracy in reports covering broadband content (OECD, 2005, 2006a, b) and this has been drawn on in this separate analysis of piracy involving hard media.¹

¹ The OECD’s Working Party on the Information Economy (WPIE) is undertaking analysis of the digital delivery of content. Details of this work and available studies can be found at www.oecd.org/sti/digitalcontent.
Box 1.1 Different forms of physical piracy

This phase of the Counterfeiting and Piracy study focus on “physical piracy”, which is described as piracy involving the use of “hard media” and results in a tangible product (for example a music CD).

The most common forms of hard media used by pirates are well known to consumers; these are the CDs and DVDs that contain music and video content, as well as the older music cassettes and VHS tapes. These CDs and DVD can come in numerous formats and in different sizes; for example video CDs, or mini Discs, but they are all essentially similar, and contain music and video content that can be played in home music system, DVD players, personal and auto CD players and so on.

These common formats are those that are measured by the music and film industries when they assess the extent of physical piracy and consequential losses.

However, there are other hard media formats that can also be used in the piracy of music and video content; and these are computer related storage media such as hard drives, memory cards, flash memory drives, and others.

For example, an 80Gb external hard drive could store as many as 20,000 digital song files (in formats such as MP3) which can be transferred from one person or another, and potentially used to create pirated CDs for sale to other consumers. Lap-top computers, MP3 players, Personal Digital Assistants (PDAs) and even mobile telephones could be used for the same purposes.

These storage devices are something of a grey area, because while they are tangible, they do not conform to the general concept of hard media, such as CDs and DVDs, and an argument could be mounted that they are nothing more than storage devices that also permit the transfer of digital data.

Even if we were to treat them as forms of physical piracy, the transactions are generally very private and diffused, and it would be virtually impossible to identify and measure them. Therefore this sector report, while recognising their existence and their potential for facilitating the distribution of pirated material, does not attempt to explore them in depth, and no effort is made to identify their specific contribution to the overall piracy problem. Therefore, while this report recognises their existence and their potential for facilitating the distribution of pirated material, does not attempt to explore them in depth, and no effort is made to identify their specific contribution to the overall piracy problem. The music and film industry have taken a similar approach, even though they are aware of these different forms of piracy (see for example IFPI, 2006, p3-4).

1.6 Audio and video piracy has evolved substantially over the years, and changes have occurred at an increasing speed as suitable technology has become more widespread, easier to use and more affordable. The details of how this piracy has evolved has been reported many times, and there is little point repeating these, except insofar as it helps to better understand how the situation with respect to physical piracy in the audio and video sectors differs from the problem of counterfeiting being faced by other industry sectors.

1.7 In essence, the developments in audio and video piracy have evolved in parallel fashion, albeit at different speeds due to the different demands placed on technology by the duplication of audio and video content.

1.8 As a concise summary, in both cases but at different times, this involved firstly the development of relatively expensive semi-commercial reproduction equipment that permitted moderately large scale production of pirated media, then the arrival of inexpensive computer equipment that allowed individuals to “burn” CDs and DVDs, and finally further developments in computing technology and the Internet that has allowed the transfer, copying and playing of digital audio/video files. This last stage has the potential to eventually virtually by-pass the need for the production, distribution and sale of copies on hard media; although it is unlikely that the demand for hard media products will totally disappear.

1.9 Despite these common elements, the way piracy has developed in these different entertainment sectors has differed, and in the interest of clarity it is useful to consider these developments individually.
Audio piracy

1.10 When music was sold only on vinyl records there was virtually no piracy. The technology to produce vinyl records was complicated and required substantial capital investments. Therefore, legitimate recordings, sold through authorised outlets, were virtually the only way to obtain music.

1.11 The situation changed slightly when reel-to-reel tape recorders became generally available in the 1950s, but these were basically only used by hi-fi enthusiasts, willing to go to considerable trouble to record from vinyl originals. The penetration of reel-to-reel tape recorders in the market was small and as a consequence there was little cause for concern for music companies and artists.

1.12 The next development, and the first that caused serious concern for the music industry, was the introduction by Phillips of the Compact Cassette in 1963. The ability of the cassettes to easily record music, as well as playing pre-recorded material, meant that for the first time ordinary consumers had the means of more easily copying original music, and this opened up a new challenge for the music industry.

1.13 However, while cassette recorders were more accessible to the general public than their reel-to-reel predecessors, there were nevertheless problems with the format, which meant that piracy, even if possible on a large scale for the first time, was relatively slow to develop.

1.14 First of all, cassettes were originally designed for voice recording, and their performance for music was relatively poor. Improved music quality would have to wait for the development of supplementary technology (such as metal tapes, noise suppression mechanisms etc.). These innovations improved performance but also increased the cost of cassette machines and tapes.

1.15 Second, the principal source of original music remained vinyl records, which frequently became scratched and noisy, so that non-professional recordings were rarely of good quality.

1.16 Finally, the quality of music recorded on cassettes was generally much lower than vinyl records, even when professionally produced in a factory. This was due to the limited audio dynamics of the tape used in the cassettes and the electronics used in cassette recording and playing machines. Even more important (from a piracy perspective) was that the inherent characteristics of the tape medium meant that there was an in-built degradation of quality from one recording to the next, whereby some of the signal was lost in every generation of recordings from one cassette to another.

1.17 Nevertheless, the cassette was the first time when technology made large scale copying feasible. This was a significant milestone, for not only was home copying facilitated (especially when double cassette decks were introduced) but also this was the first time that the investment necessary to set up a pirate recording facility came within easy reach of organised pirates. High speed tape dubbing machines became available at an affordable price and the editing and dubbing capability of the cassettes enabled compilations to be made relatively easily for the first time.

1.18 Pirated cassettes, of variable quality, initially freely available in certain “tourist” locations, were the first hint of what was to become a more serious future problem for the music industry. Also, the large scale, centralised production of pirated cassettes acted as incentives for organised crime to participate through the provision of capital to set up illicit copying facilities, to acquire “master” tapes to improve the quality (and hence the value) of the finished products and to set up transport and distribution channels.

1.19 The early 1980s saw the introduction of Compact Discs (CD) which heralded a further revolution in the music industry. At the beginning the introduction of CDs was almost like going “back to the future”, because the CDs could initially only be produced in high tech laboratories which required large capital investments. Therefore, while the quality of the original material increased considerably (the original CDs
themselves could be used as the master copy) for some time the reproduction media for pirates remained the Compact Cassette.

1.20 This began to change in the early 1990s when large-scale factories in various parts of the world began mass producing pirated CDs (see later section on “Modes of Operation” for a more detailed description of commercial pressing of CDs).

1.21 This situation further changed when CDs started to be used as storage devices in personal computers. This led to the rapid development of cheap CD-R\(^2\) burners which are now standard equipment on virtually every computer produced. This reduced the need for extensive investment in commercial scale equipment capable of pressing CDs, and allowed individuals, operating small-scale facilities, to produce potentially near perfect copies for sale to consumers. This computer driven and enabled revolution, and the major impact that it has had on the music industry, was frequently mentioned by respondents to the OECD industry survey.

**Video piracy**

1.22 The development of video piracy has paralleled that of the music industry, albeit initially at a slower rate due to the more rigorous technical challenges of copying the much larger quantities of data present in video content.

1.23 The copying of video content was quite difficult, and expensive, until the mid-1970s, when home video cassette recorders (VCRs) became commercially available. The VCRs allowed the recording of video content from TV broadcasts, as well as copying from one machine to another, thus giving pirates their first opportunity to sell video cassettes alongside their audio counterparts.

1.24 While pirated copies taken from high quality masters could be reasonable, in general the quality of pirated VCRs was poor, as most were taken either directly from recordings taken off TV broadcasts (often with commercials, sub-titles and language dubbing included), or from other VCR tapes, which suffered the same generational degradation of quality that afflicted their audio cassette counterparts.

1.25 Therefore, while piracy on VHS cassettes became relatively common, initially it could be argued that because of their relatively poor quality, videocassettes were probably more of a nuisance than a real threat to the movie and TV industries.

1.26 However, the introduction of DVDs\(^3\) in the mid-1990s changed this scenario quite dramatically, as the copy protection in these could be bypassed to allow virtually perfect copies to be made in commercial quantities using sophisticated pressing equipment.

1.27 As was the case in the music sector, the rapid evolution of affordable powerful computers, and the growing availability of DVD-R burning machines, which permit home computers to copy video content just as easily as audio, meant that both sectors were now exposed to similar risks from both large and small scale pirates. Finally, the availability of sophisticated camcorders also gave pirates the opportunity of

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\(^2\) CD-R stands for Compact Disc-Recordable. This is the favourite means of illegally copying music. These discs are different from the multi-use CD-RW (Compact Disc Re-Writeable) which use different recording technology, and are intended for use in computer applications. Many home, motor vehicle and personal CD players will not play CD-RW discs, so these are rarely used for pirated music.

\(^3\) DVDs are Digital Versatile Discs, which with their much larger capacity can store both video and audio material. DVD-Rs are recordable in much the same way as their CD counterparts.
copying new movies directly from their very first screening; thus allowing pirated copies to hit the streets more quickly than ever before.

1.28 In other words, the experiences of the audio industry have been repeated in the video sector; that is, the ready availability of pristine original material, and the growing capability of pirates to copy material by either using reasonably priced commercial reproduction equipment or personal computers as a small-scale enterprise. In addition, the rapidly growing ability to move video content around the Internet has made access to content and distribution of pirated items easier, and their detection more difficult.

1.29 These developments have been unique to the music, film and software industries (although the latter has not been examined in detail in this study), and while the development of technology has not been the only reason for the growing incidence of piracy, the technological capability that is within the reach of virtually anyone with a computer has made these industry sectors more vulnerable than most to counterfeiting/piracy.

Common experiences

1.30 The effect of these parallel developments in the reproduction of audio and video content has been that, in addition to the commercial pressing of optical discs, anyone with access to a PC with a CD/DVD burner can now easily obtain high quality masters of original music and video content (either from other CD/DVDs or from digital computer files), compile them if necessary, and cheaply produce good quality copies. Piracy had now evolved into a very serious threat to these industries.

1.31 There have been further developments, and an even more serious challenge now comes from peer-to-peer file swapping using broadband Internet connections, which greatly facilitates the movement of large audio and video content (see OECD, 2004 for further details). Because the Internet allows content to be moved directly from computer to computer, nothing physical ever needs to be manufactured and transported, which makes detection and countermeasures much more difficult. At the same time, the Internet has also given rise to new and very successful online business models for both music and film content, and peer-to-peer technologies are increasingly used to distribute content on commercial terms via the music and film industry (OECD, 2006b).

1.32 The point of this brief analysis has been to highlight the changes that have occurred over time, in order to gain some insights into the challenges being faced by today’s music, film and TV industries in dealing with piracy. Whereas in most other sectors the owners of IP rights have to deal with counterfeited items that to some degree or other must be manufactured (which implies investment in materials, equipment and skilled workers), which must be transported to markets and where copies often do not perform as well as the originals, in the music and film industries technological advances have acted to make the production of pirated copies better, easier, cheaper, faster and importantly, local.

1.33 This means that music and video pirates can produce low cost, relatively high quality copies on either pressed or burnt hard media that to consumers are virtually indistinguishable from legitimate products. These pirated copies are increasingly produced locally, thus dispersing the supply chain and reducing the need for long distance transport and complex distribution networks. Also, music and video content can now be pirated, sold and transmitted around the globe without the need to fabricate any physical goods, which is a threat not faced by other industries. Apart from software, none of the other industry sectors examined in this report, face this kind of challenge to their legitimate trade, as in other sectors the necessity to produce, transport and distribute physical goods still remains.
Types of infringements

1.34 The principal form of IPR infringement being faced by the music, film and TV industries is piracy, that is, breach of copyright. When copies of original album and film covers are used on the pirated CDs or DVDs (for example record or film company logos) then this may also involve trademark and perhaps design infringements of those covers and logos, if they are registered.

1.35 While there is arguably little incentive for those pirating the music to go to the extra expense of printing labels (as the item of interest is the music or the film itself, not the wrapping), when pirates do copy the packaging this can be extremely sophisticated, and music and film companies have reported that even security holograms have been copied. This can enhance the value of the pirated product, and in the case of the very best copies these have even found their way to regular stores, to be sold alongside the legitimate versions. These high quality pirated copies are generally produced in illicit, semi-professional mass production workshops, rather than the small-scale piracy undertaken by individuals.

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**Box 1.2 What forms can video/audio piracy take?**

For the purposes of this sector study, piracy is defined as copies that are made without the consent of the rights holder, and which are an infringement of copyright or related rights under the laws of the countries or territories concerned. This definition is largely consistent with (but not identical to) the definition of "copyright piracy" found in the footnote to Article 51 of the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

However both the music and film industries have developed more detailed definitions to cover their sectors, and those definitions that define physical piracy (the focus of this study) are shown below to clarify how these terms are used in these industries. While the terms used by the music and film industries are to some degree similar, they can describe quite different things - for example the term “bootlegging” is quite different when used in a music or film sense.

To avoid confusion, when this study talks about “piracy” this should be read in the context of the TRIPS definition shown above. However, if a term is ever used in the context of a particular industry (for example when data from that industry is presented) then that term will used in a manner consistent with the definition used by the particular industry under analysis, and will be clearly identified as such.

**Film terminology**

The film industry definitions have been drawn from the Motion Picture Association of America (MPAA, 2006), which uses the following classification of activities that involve physical piracy:

- **Bootlegging:** Movies and other video content obtained by either purchasing or obtaining an illegally copied tape or optical disc.
- **Illegal Copying:** Making or receiving illegal copies of video content made from a legitimate cassette or optical disc.

**Music terminology**

The terminology for physical piracy in the music industry has been drawn from the International Federation of the Phonographic Industries (IFPI)⁴. These include:

- **Physical music piracy:** Physical music piracy is the making or distribution of sound recordings on physical carriers without the consent of the rights owner. The term “piracy” refers to activities that are of a commercial nature, including activities that cause a commercial harm. The packaging of pirate copies may or may not be different from the original. Pirate copies are often compilations, such as the "greatest hits" of a specific artist, or a collection of a specific genre, such as dance tracks.

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⁴ See www.ifpi.org/content/section_views/what_is_piracy.html
Counterfeit: Counterfeits are one type of physical piracy – these are made without required permission and are packaged to resemble the original as closely as possible. The original artwork is reproduced, as well as trademarks and logos in some cases, and is likely to mislead the consumer into believing that they are buying a genuine legitimate product.

Bootlegs: Bootlegs are the unauthorised recordings of live or broadcast performances. They are duplicated and sold - sometimes at a premium price - without the permission of the artist, composer or record company.

Notes

i) The focus of this study is the commercial, physical piracy of music, film and video content generally conducted for profit. It is recognised that in many circumstances the use of music and video content may be legally permitted; for example some forms of private, non-commercial copying, and these instances are not covered in this analysis.

ii) The film industry uses a definition of Internet Piracy which principally covers non-physical piracy, which is outside the scope of this study (it will be taken up in Phase II). However, in the film industry the definition of Internet piracy also covers the copying of movies illegally obtained on-line and copied onto hard media (tapes and optical discs), which does fall within the scope of this study. Therefore, if movie data on Internet piracy is excluded, then this will tend to underestimate the size of the physical piracy problem in the film industry. Conversely, if the data is used then the magnitude of physical piracy involving hard media in the film industry will be overstated.

Working on the presumption that movie piracy which is strictly online would constitute the overwhelming majority of Internet piracy involving films, data for internet piracy in the film industry has where possible been excluded from this analysis.

Modes of operation

1.36 With respect to physical piracy, present day production of pirated audio and video content involves both the traditional, centralised production of CDs and DVDs in commercial quantities, and the more recent approach of limited quantity production from small-scale enterprises, using easily obtainable and inexpensive computer equipment.

Large scale commercial production

1.37 Setting up a facility to replicate (or “press” from a master copy) CDs and DVDs remains a comparatively expensive undertaking, requiring substantial investment in suitable equipment, and would only be entertained by those intending to produce very large numbers of CDs and DVDs. Only well funded and organised groups, with extensive distribution networks, would make the necessary investment for this kind of sophisticated equipment.

1.38 Apart from its cost (which would require the production and sale of large numbers of CDs and DVDs to amortise) this equipment would also need to be housed in permanent or quasi-permanent production facilities, which would greatly increase the chance of discovery.

1.39 In addition, a respondent from the movie industry claimed that the greatest occurrence of physical video piracy occurs in territories with the more “relaxed” rules of law relating to IPR, and where there is unused capacity in facilities that can produce finished DVDs (as opposed to the production of blank optical discs). The inference is that loosely regulated and controlled “commercial” manufacturing

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5 In some parts of the world piracy is still carried out using music cassettes and VHS video tapes as the media of choice, but these are rapidly being supplanted by CDs, DVDs and the Internet.
facilities are being used to produce pirated versions of popular films and TV shows; perhaps in parallel with the legitimate items. This insight was also reflected in a submission to the USTR by the International Intellectual Property Alliance (IIPA, 2006b).

1.40 Such sophisticated production and distribution activities would also have the capacity and resources to manage the complex piracy chain associated with an activity of this scale. For example, obtaining pre-release copies of films (in particular) can be more difficult than obtaining post release masters (when the legitimate, commercially available CDs and DVDs can fulfill this role) and this would require leaks from the studios or from pre-release copies circulated for promotional purpose, or for someone to make a videocam copy from an early theatre showing.

1.41 The value of such pre-release copies is greatest before legitimate copies are made commercially available by the music or film studios, when copying can then be taken up by small scale pirates. Therefore, quick production in considerable quantities is necessary, as well as a rapid and effective transport/distribution network to the eventual markets, which are generally outside the country of production.

1.42 These large scale activities, especially those involving brand new material, would require sophisticated organisation and considerable investment, and this is likely to attract the attention of, and participation by, organised groups, including criminals, who direct their organisational skills, their financial strength and other “persuasive” techniques to construct and operate a large-scale piracy chain. This is discussed in greater length later in this sectoral analysis.

Small scale commercial production

1.43 As indicated earlier, computer technology has now reached the stage where CDs and DVDs can be copied at low cost and in relatively large numbers using easily obtainable multiple optical disc burners, operating either as stand-alone units or linked to a desktop computer. Quite clearly, this offers pirates the opportunity of entering into highly mobile, small scale commercial production without the need for the extensive investment necessary to set up the large scale production facilities referred to in the earlier section.

1.44 By way of example, for a modest investment of around USD 700 it is possible to buy a 7 burner tower\(^6\) that will plug in to a basic computer, and be capable of reproducing 70 or so CD-Rs an hour. Similarly, a manually operated, self-standing (i.e. no linkage to a computer required) unit with 10 DVD burners, costing less than USD 2000, could produce around 90 DVDs an hour.\(^7\)

1.45 Such units are quite small and can be easily moved around to minimise the risk of detection. Some more sophisticated models are automated and can be linked to compatible printing devices to produce pirated CDs and DVDs that would be hard to distinguish from legitimate products. This kind of production is suitable for distribution in open markets and locations where there are concentrations of tourists, thus avoiding exportation, which effectively reduces the risk of detection during transport or when moving through customs controls.

1.46 This small-scale commercial model, mentioned by most respondents to the OECD survey, is characterised by relatively small production facilities with outputs intended for local markets. Unlike other forms of counterfeiting/piracy, where skilled operators and substantial investment in production equipment

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\(^6\) Information from proactionmedia.com

\(^7\) Information from www.octave.com
is generally needed, in the audio/video sector only modest investments and few skills are required to produce copies of CDs or DVDs.

1.47 This smaller scale production capability has meant that the piracy base has increased enormously, so that instead of a small number of pirates producing large numbers of copies for both local and export markets, there is now an increasing number of pirates who together probably produce the same quantities as the large scale operators, but for essentially local distribution. This development has caused considerable concern amongst respondents to the OECD survey.

1.48 The production costs for these small scale production facilities can be very low. Even purchased commercially in packs of 100 from sites such as eBay and Amazon, blank CD-Rs will cost around USD 20 cents each. Even with a jewel case and printed label the overall cost per CD is unlikely to be more than USD 35-40 cents each.

1.49 For illegal DVD-Rs, the cost of production (i.e., the cost of the DVD-Rs and packaging) has been estimated to be USD 57 cents, while their resale value is around USD 9 (MPA, 2005).

1.50 Even obtaining “masters” (from which copies can be made) is now relatively easy, as these can be found on legitimate CDs or DVDs of the content to be pirated, from “camcorder” copies of films taken in theatres or data files downloaded from the Internet. Any of these will give the pirate copies of varying, but generally acceptable, quality.

1.51 This means that even by selling a pirated CD or DVD for the equivalent of USD 1 the pirate can net a profit of around 100%. Depending on the market, the sale price can be higher, which would then provide a margin to the pirate for transport and distribution beyond his local market.

1.52 On the audio side, in addition to changes in the mode of production, there have also been changes in the content of pirated items. Large scale production focuses on producing a large number of the same title; such as a new album by a popular artist. The smaller scale pirate can also do this, but in addition has the flexibility of producing compilations of different songs from the same or different artists “on demand”. This additional service is facilitated by the computing power available from the same computer that will burn the pirate CD, and the availability of the Internet for customers to place such orders.

1.53 The importance of the development of small-scale enterprises is that there is now considerably less reason for pirated CDs and DVDs to be produced in one location, and then exported to markets worldwide. As well as broadening the production base this also means that there is less need for pirated items to be exported across borders, and therefore commensurately less opportunity for interception by customs authorities. In addition, small-scale enterprises deal in much smaller quantities, which makes detection more difficult, and prosecution or civil action less attractive for enforcement authorities and owners of IP rights.

Factors that drive production and consumption of pirated items

1.54 This section examines various factors that drive the production and consumption of pirated audio-visual products. Each product sector has its own peculiar characteristics that will in part determine and shape those drivers, and the recognition and understanding of these drivers can provide insights on the propensity for that category of goods to be produced. In turn this may provide some guidance on the likelihood that such products can be found in the market place and may support statistical data collected through customs interdictions, police raids on production and retail facilities, the results of legal action and other market based data. Moreover, the propensities could provide important insights into how surveys and economic modelling could best be used to improve measurement.
1.55 In the summary table below (Table 1.1), the drivers that are considered to apply in the audio-visual sector have been prepared (on the basis of available information, analysis, industry experience and qualitative judgement) on whether, and to what extent, they are favourable or unfavourable for the production and consumption of these pirated goods.

1.56 A more detailed explanation of the derivation of these propensity factors can be found in the Attachment to this sector analysis.

Table 1.1 Propensity to Produce or Consume Pirated Audio and Visual Goods

(See Attachment for more detailed explanations)

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECT ON PROPENSITIES TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>These can be high because of low production costs.</td>
</tr>
<tr>
<td>Market size</td>
<td>Very large as music, film and other video content is consumed in substantial quantities in most markets.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>Artists have high visibility and strong followings</td>
</tr>
<tr>
<td><strong>Production, distribution &amp; technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production Investments</td>
<td>Large scale production can require considerable investment, but smaller-scale enterprises much less so</td>
</tr>
<tr>
<td>Technology</td>
<td>Technology not a significant barrier.</td>
</tr>
<tr>
<td>Logistics</td>
<td>Logistics of moving large quantities of hard media could be difficult, but smaller-scale local production and the Internet are making this easier.</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>Ready market for products in locations ranging from street corner vendors to open markets and for the best products in legitimate stores alongside the original items. Heavy promotion of originals by the industry also creates demand.</td>
</tr>
<tr>
<td>Ability to conceal operations</td>
<td>Large scale production facilities difficult to conceal, but smaller, more mobile facilities less of a problem.</td>
</tr>
<tr>
<td>Ability to deceive</td>
<td>Generally no need to deceive consumers as the product is a copy of the genuine article.</td>
</tr>
<tr>
<td><strong>Institutional characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Risk of discovery</td>
<td>Moderate when borders are crossed, but diminishing as small-scale enterprises reduce need for large scale distribution.</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Risks of both prosecution and civil action may be high as entertainment industry is very active, but industry believes that to some degree this is countered by low priority by law enforcement agencies.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Industry experience has been that severe penalties would deter pirates, if these successfully applied when pirates are prosecuted or face civil law actions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOR CONSUMERS</th>
<th>EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>Experience in the market is that these are low and acceptable to buyers.</td>
</tr>
<tr>
<td>Quality and nature of product</td>
<td>Quality varies, but generally acceptable. The rapid availability of the latest products also increases propensity to consume.</td>
</tr>
<tr>
<td>Ability to conceal status</td>
<td>Concealment of pirated items to enhance status symbol effect not an issue in this sector.</td>
</tr>
</tbody>
</table>
### Consumer Characteristics

<table>
<thead>
<tr>
<th>Health Concerns</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Concerns</td>
<td>Except for the extent of participation of organised crime, personal or public safety in not a major issue in this sector.</td>
</tr>
<tr>
<td>Personal values</td>
<td>Indications are that piracy is well understood by consumers, but other attractions, such as lower price and ready availability of new material can act as drivers to consumers.</td>
</tr>
</tbody>
</table>

### Institutional Characteristics

<table>
<thead>
<tr>
<th>Risk of discovery</th>
<th>Moderate at best, principally when taking pirated media through customs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of Prosecution</td>
<td>Risk possibly high if discovered, but probably low in practice</td>
</tr>
<tr>
<td>Penalties</td>
<td>Relatively severe penalties exist but the risk of severe penalties being applied is probably relatively low.</td>
</tr>
<tr>
<td>Availability and ease of acquisition</td>
<td>Freely available and easily acquired</td>
</tr>
</tbody>
</table>

1.57 The interpretation of these propensity factors needs some caution, as not all drivers will carry the same weight in the decision-making process. As a simple example, any potential difficulties with the transport and distribution of centrally produced pirated hard media might be totally overwhelmed by the potential profits available to the pirate.

1.58 The drivers in Table 1.1 suggest that for producers the relative ease of production and distribution, the potential profits and relatively low penalties - especially in comparison with other illicit commodities such as drugs - are likely to encourage production. Pirates can also focus on the more popular content, and piggy-back on promotional efforts of the industry. The only downside for producers appears to be the actions of government to limit IP infringement and the active campaign being waged by the entertainment industry.

1.59 On the consumer side, the rapport between quality and price of the pirated products, the ready availability of the latest and most popular releases, and the relatively low risk of detection/prosecution, suggests that consumption would be encouraged, despite active education campaigns by music and film companies.

1.60 Overall, the drivers for the audio-visual sector would suggest that, despite these goods being subject to discretionary consumption, large scale pirate activities can be expected, in part because of the attractiveness of the pirated items to consumers, and the relatively low financial and legal risks for both producers and consumers.

**The issue of overcapacity of optical disc production**

1.61 In the OECD survey, respondents from both the music and film industries expressed the view that global capacity to produce optical discs (both CDs and DVDs) is a major contributor to piracy.\(^8\) In its 2006 Piracy Report (IFPI, 2006) the International Federation of Phonographic Industries estimated that global capacity to produce optical discs (both CDs and DVDs) is a major contributor to piracy.\(^8\) In its 2006 Piracy Report (IFPI, 2006) the International Federation of Phonographic Industries estimated that global

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\(^8\) Optical disc is a generic description for discs where lasers are used to read embedded data. CDs can store a maximum of 800Mb, while DVDs can store 4.7Gb. New generation Optical Discs (such as the Sony Blu-Ray, and the Toshiba HD DVD) will greatly increase capacity up to around 25-50Gb. For more information, see Optical Storage Technology Association at www.osta.org

\(^9\) For a more detailed explanation of this proposition by the industry, see (IFPI, 2003 page 44) and the Submission in (IIPA, 2006b, pages 7-11)
disc capacity totalled 60 billion units, but that estimated “legitimate demand” amounted to around 20 billion units, or approximately 30%, of that production capacity.

1.62 IFPI draws its data from US researchers Understanding & Solutions (U&S), which according to IFPI uses the following definition of “legitimate demand”:

“Legitimate demand” is measured in terms of trade deliveries in the retail distribution network rather than discs which are demanded by, e.g. a local studio/music label or software developer regardless of their final destination.”

1.63 In itself this is a relatively narrow and technical definition of legitimate demand, but it is noted that there is no suggestion by the industry that the remaining demand (such as business and home use) would necessarily be “not legitimate”.

1.64 With respect to the impact of any “overproduction” of optical discs on piracy, IFPI’s own data shows that in 2005 around 1.2 billion pirated music CDs were sold (IFPI, 2006), which means that – looking at the world average - the actual use of optical discs for music piracy would amount to no more than 2% of claimed total optical disc production capacity, which would in turn translate to a comparatively small proportion of overcapacity (or even of actual production). While 2% might not seem a big number, the volume of pirated music discs is around a third of all music discs sold.

1.65 Overall, this 2% conversion of capacity to pirated material suggests that while overcapacity would facilitate piracy, it does not seem to be the principal driver for the production of pirated material.

1.66 It is also noted that there is no established correlation between overcapacity in specific countries and territories (see IFPI, 2005, page 5) and piracy rates. As the prime example, for some years Chinese Taipei has been judged by the industry as having by far the highest optical disc production overcapacity (IFPI 2003, 2005, 2006), but Chinese Taipei exports around 90% of its optical disc production (Global Sources 2005), and it is not at all clear to what extent these exports are used to pirate copyrighted material. Also, Chinese Taipei is not particularly high on list of places with the greatest piracy losses, nor is it amongst the locations where the levels of piracy are estimated to be highest. As another example, Singapore also has substantial “overcapacity”, but has very low piracy rates.

1.67 However, IFPI has also pointed out that in some specific economies (Russia was mentioned as an example) overproduction is considered by the industry to be a major contributor to piracy in those localities, often through the use of plant processing capacity (i.e. the pressing, not burning of optical discs – see the section on “Large scale commercial production” for more details). This point is noted.

1.68 In summary, leaving to one side the difficulties of defining and quantifying “legitimate” demand and whether it would be possible to somehow regulate the market to minimise overcapacity, there seems little doubt that the ease of availability of optical discs and computer hardware facilitates piracy in the audio/visual sector, by creating opportunities for pirates not seen in other industry sectors, where substantial investments in skills, equipment and materials are necessary in order to produce fake copies of original items.

10 See www.uands.com for further information.
Piracy rates and main centres of production

The availability of data

1.69 Generally speaking, efforts to estimate the magnitude of counterfeiting and piracy are hampered by the lack of reliable, consistent data. The principal reason for this is that along with other illicit activities (smuggling, the drug trade etc) counterfeiting and piracy are covert activities for which reliable, official statistics are not available. Therefore, while there is some data and a considerable amount of anecdotal information available, it is a difficult task to know exactly the extent and magnitude of the problem, as these can generally only be imputed by reference to data that are neither complete nor reliable.

1.70 For their part the music and film industries (along with software and book publishers) have been very active in collating information and data on piracy in their respective sectors, and have developed methodologies to assess the extent and sources of piracy, and the effects on their respective sectors. While measurement remains an inexact science, the responses to the OECD survey, material provided by the industry, as well as independent research by the study team, indicates that the quantity and quality of data available, even if not perfect, is generally superior to that of other industry sectors.

1.71 The key organisations in the music industry are the International Federation of the Phonographic Industries (IFPI), which has 48 national affiliates and takes a global perspective on that industry. The Recording Industry Association of America (RIAA), which is affiliated to IFPI, represents the interests of the US music industry and has also been active in collecting and analysing information on piracy.

1.72 On the film side, the key organisations are the Motion Picture Association (MPA), and the Motion Picture Association of America (MPAA). While nominally different, these organisations are for all intents and purposes one and the same. Both share the same members (the principal US film studios), and share research, data and a common website. The only substantive difference between the two organisations is that while the MPAA focuses on US issues (such as piracy in the US and dealings with the US government), the MPA focuses on international piracy, liaisons with non-US governments etc.

1.73 The consequence of this very close relationship between the MPA and the MPAA is that their data has a very strong US flavour. However, the MPA has also produced some data on losses due to piracy incurred by “local” (i.e. non-MPA member) producers, and this is used in this report, albeit sparingly and with some qualifications. Unfortunately, no other organisations representing film companies from regions outside the US responded to the OECD survey.

1.74 Both the RIAA and the MPAA are members of the International Intellectual Property Alliance (IIPA) which in a US context is active in collating piracy data which is used for a variety of purposes, including providing regular reports and recommendations to the US Government’s “Special 301 process”.

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11 Both organisations can be found at www.mpaa.org

12 The IIPA members are: Association of American Publishers (AAP); Business Software Alliance (BSA); Entertainment Software Association (ESA); Independent Film & Television Alliance (IFTA); Motion Picture Association of America (MPAA); National Music Publishers’ Association (NMPA); Recording Industry Association of America (RIAA).

13 “Special 301” is the part of U.S. trade law that requires the U.S. Trade Representative (USTR) to identify countries that deny adequate protection for intellectual property rights (IPR) or that deny fair and equitable market access for U.S. persons who rely on IPR.
These reports, co-ordinated by the IIPA on behalf of its members, have been prepared for more than 100 countries and territories and contain estimates on the incidence of piracy, its value, the impact on the markets in those countries and territories and details of legislative protection (IIPA, 2006c).

While these IIPA reports bring together a considerable amount of information, they are structured in a way that meet the USTR requirements for the “Special 301” process, and cover only US music and film companies which, even though these constitute a very large proportion of the total market, remains a limitation. For this reason, preference is given wherever possible to IFPI and MPA data, although reference is also made to RIAA, MPAA and IIPA data when appropriate.

Additional anecdotal information was provided by the industry through the OECD survey undertaken in 2005. Many of the industry inputs were provided on a confidential basis (and are treated as such in this report) and were valuable sources of information on industry experience. Outside of the industry, detailed data on piracy is difficult to find, and independent studies tend to rely on industry data as the basis of their analyses.

Therefore, the analysis in this sector report relies quite heavily on industry information. However, the methodologies used in collection and analysis are relatively transparent, and because the data is used to provide an indication of the general magnitude of the piracy problems experienced, rather than detailed examination for subsequent action, it is suggested that the source of the data does not nullify its value.

**Music piracy**

Information for the incidence of piracy in the music sector has been largely taken from the yearly Commercial Piracy Reports issued by IFPI (IFPI, 2005 and 2006), as well as a confidential submission by that organisation to the OECD as part of the 2005 industry survey. Where relevant, this has been supplemented by data from the RIAA as supplied to the IIPA for their “Special 301” Reports (IIPA 2006b).

The IFPI methodology calculates the piracy rate in any given economy based on the number of pirate units sold, divided by the total number of units sold (both pirate and legitimate), and is based on extrapolations from three different sources:

(i) Estimates received from its different national groups of sound recording producers.

(ii) Estimates received from external consultants.

(iii) Seizure information extrapolated from IFPI’s enforcement teams and data from the national groups.

IFPI also takes into account historical estimates and academic and consumer studies where these are available, and believes that each of these sources of information brings a different perspective to the preparation of the estimates.

Some observations are necessary before attempting to draw points out of the levels of domestic piracy contained in Table 1.2. The first observation is that the IFPI methodology focuses on the sale of both genuine and pirated optical discs (i.e. consumption, not production). Therefore, while this data is useful to establish where genuine products are under most pressure from pirated alternatives, it does not help to establish where they are produced, as pirated optical discs sold in one economy may have been imported from another economy.
1.83 The IIPA reports submitted to the USTR for the “Special 301” process on the surface offered some help here, as its methodology noted that where the RIAA (which collects the data on behalf of the IIPA) has sufficient information relating to known manufacture of pirate recordings that emanate from a third country, this loss data would be included in the loss number for the country of manufacture rather than the country of sale (for details of the IIPA/RIAA methodology see IIPA, 2005).

1.84 However, the RIAA has subsequently advised that this has been possible for only a very small number of countries, which limits the value of this otherwise potentially useful data set to shed some light on centres of production.

1.85 The OECD’s survey of customs authorities in 2006 was also examined for possible information on centres of production, but unfortunately this data was too coarse, as almost none recorded details of content, but simply that pirated optical discs had been intercepted. In any case, there was also very little information provided on the origin of the intercepted items.

<table>
<thead>
<tr>
<th>Table 1.2</th>
<th>IFPI Estimates of the Level of domestic music piracy 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region</td>
<td>Over 50%</td>
</tr>
<tr>
<td>North America</td>
<td>USA, Canada</td>
</tr>
<tr>
<td>Europe</td>
<td>Bulgaria, Estonia, Latvia, Lithuania, Romania, Russia, Turkey, Ukraine</td>
</tr>
<tr>
<td>Asia</td>
<td>China, India, Indonesia</td>
</tr>
<tr>
<td>Latin America</td>
<td>Argentina, Central America, Chile, Colombia, Ecuador, Mexico, Paraguay</td>
</tr>
</tbody>
</table>

Footnote 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 recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

Footnote by all the European Union Member States of the OECD and the European Commission:
The Republic of Cyprus is recognized 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.
1.86 However, a point that may be relevant here is the gradually changing face of music piracy as outlined in the earlier section on “Modes of Operation”. That section highlighted the development of smaller scale, commercial operations producing pirated optical discs primarily for local markets. This development would suggest that increasingly pirated optical discs would be produced and sold locally, thus facilitating the deduction of the principal centres of production. However, there is no indication at this stage as to when that point might be reached, and all that can be recorded at present is that there is no systematically collected data that would allow a rigorous analysis of the main centres of pirated optical discs has been found.

1.87 On a purely anecdotal basis, the centres of production most frequently mentioned in the industry questionnaires were China, Russia, Pakistan, Uruguay, Nigeria, Malaysia, Indonesia and Thailand.

1.88 While the IFPI or other available data do not help to clearly identify the principal centres of production, they nevertheless indicate the extent of the problem faced by the music industry. The key point that can be drawn from Table 1.2 is the large number of economies where there is significant estimated penetration by pirated products and especially those where pirated music rates are estimated to be over 50% (29 of the 73 economies surveyed by IFPI). In such markets the legitimate music would find it difficult to compete effectively, even if there is not a one-for-one substitution between pirated and genuine copies (the issue of substitution is taken up in more detail in the next section).

1.89 It was also evident from the detailed material provided by IFPI that piracy levels have fluctuated over the years, and that while the penetration levels have fallen slightly in some countries and territories, perhaps because of more intense and effective policing, in most places the penetration levels have remained steady, or increased.

**Film piracy**

1.90 The film industry has also systematically produced information and data related to movie piracy. In particular, the Motion Picture Association (MPA) commissioned a consultant to undertake an extensive study on its behalf (MPA, 2006). However, that study does not address piracy rates, but rather focuses on losses suffered by MPA members as well as estimating “consumer spending loss”, which covers losses by governments, non-MPA production companies and others in the industry. Therefore, this study is discussed in detail in the next section on effects.

1.91 Because of the lack of data on film piracy rate in the MPA study, this section uses data produced by the IIPA in its series of country reports on piracy for submission to the USTR as part of the Special 301
process (IIPA, 2006c). The basic data for the IIPA’s for its Special 301 reports is supplied by the Motion Picture Association of America (MPAA).

1.92 It is acknowledged that, as was the case with the music sector, the “Special 301” reports are US specific and prepared for the special needs of the USTR, and together these limitations make the data less useful to represent the experiences of the broader film industry. However, it is presented here as a general guide to piracy rates experienced by the US film industry, without extrapolating these numbers as being representative of the global film industry.

1.93 The piracy levels derived by the MPAA and passed on to the IIPA for its country reports are estimated in a variety of ways (but based on wholesale values in the country/territory of sale to consumers) depending on the market circumstances.

1.94 As was the case with music, the video industry claims that the level of film piracy is very high, with some approaching saturation point (over 90%).

<table>
<thead>
<tr>
<th>Table 1.3</th>
<th>IIPA Estimates of the Level of film piracy 2004/05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 50%</td>
<td>25-50%</td>
</tr>
<tr>
<td>Argentina</td>
<td>Brazil</td>
</tr>
<tr>
<td>China</td>
<td>Bulgaria</td>
</tr>
<tr>
<td>Colombia</td>
<td>Chile</td>
</tr>
<tr>
<td>Ecuador</td>
<td>Israel</td>
</tr>
<tr>
<td>Hungary</td>
<td>Malaysia</td>
</tr>
<tr>
<td>India</td>
<td>Philippines</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Saudi Arabia</td>
</tr>
<tr>
<td>Kuwait</td>
<td>Spain</td>
</tr>
<tr>
<td>Lebanon</td>
<td>Turkey</td>
</tr>
</tbody>
</table>

| 10-24%    | Less than 10%                                |
| Brazil    | Italy                                        |
| China     | Korea                                        |
| Colombia  | Canada                                       |
| Ecuador   | Greece                                       |
| Hungary   |                                             |
| India     |                                             |
| Indonesia |                                             |
| Kuwait    |                                             |
| Lebanon   |                                             |
| Mexico    |                                             |
| Paraguay  |                                             |
| Peru      |                                             |
| Poland    |                                             |
| Russia    |                                             |
| Serbia & Montenegro |                |
| China Taipei |                                           |
| Thailand  |                                             |

Source: IIPA 2006c.

1.95 As noted earlier, the methodology used by the US film industry focuses on consumer behaviour and consumption rather than production, so the figures in Table 1.3 are not necessarily a good guide to the major centres of piracy, but rather of where pirated products are sold, and considerable trade in pirated optical discs with film content is still be taking place. This is important, as it means that there is still some incentive for the centralised, mass production of pirated items for transport to markets; even when this transport involves the crossing of borders.

1.96 However, as with music piracy this situation is likely to change in the future, as ever growing computing power facilitates the establishment of small scale production facilities to meet local demand for pirated video content. This, together with faster broadband connections to facilitate the movement of large video files across the Internet, will eventually mean that at some point in time the bulk of pirated goods will be locally produced.
Effects of piracy on the music and film industries

General effects

1.97 When analysing the effects of the availability of counterfeited goods on the market, a key consideration is that in many sectors trademark-infringing goods are rarely as good quality as the originals and in some cases they may not even be usable for the basic purpose for which they were intended.

1.98 For example, a fake t-shirt may look like the original, but may be made of inferior materials. An automotive part or a pharmaceutical product may also look like the originals, but may be of inferior manufacture or in the case of pharmaceuticals may have no active ingredients.

1.99 Despite these problems, the market for counterfeited goods has grown very quickly, even when consumers are aware that they are not buying the original items; having clearly made a judgement that the fake items are acceptable at the prices offered.

1.100 Given this situation, the piracy problems faced by the music and film industries seem considerably worse than sectors subject to counterfeiting action, because in this industry, in the age of digital recording technology, the product is generally authentic (the copied work is the same as the original) and the quality of the pirated copies can be very good.

1.101 This availability of good copies of the most popular versions of virtually any kind of music, TV shows and films, along with the increasingly fragmented and localised production methods now within easy reach of any would-be pirate, means that the music and film industries face challenges that are quite different, and arguably more difficult to deal with, than most other sectors. This situation is also likely to worsen, as online transfers are now also eliminating the need to transport the pirated goods long distances or across customs borders, which is when such goods are most at risk of being apprehended.

1.102 While the reported general effects of piracy are consistent with those suffered by other sectors subject to competition from counterfeited or pirated products (such as loss of market and profits, and loss of jobs), it is clear that there are also impacts that are specific to the music and film industries, although their actual extent can be hard to judge. This is principally because, in a sector as dynamic as the entertainment industry, even when changes in the market are detected it is difficult to know the degree to which these are due to piracy siphoning off potential sales from the legitimate music market, and the degree to which those changes are attributable to other reasons; for example, a decline in demand for music and films due to the growth of computer games and other entertainment alternatives (see IFPI, 2006a).

1.103 However, some specific effects were reported by respondents to the OECD survey, and while they cannot be quantified they are useful pointers on the kinds of effects being experienced by the music and film industries.

1.104 Without exception, all respondents noted that their industries were under severe pressure and that generally markets have been slowing, or even contracting, after many years of steady and continuous growth. While respondents acknowledged the importance of other entertainment options that competed for the attention of consumers, from the industry perspective a substantial proportion of the blame for falling sales is due to the increasingly ready availability of pirated alternatives.

1.105 As a specific effect on these entertainment industries, all respondents noted declining royalties for artists and a fall-off in the number of performers that can be kept under contract, as well as a decline in interest by performers in the industries. Additionally, any reduction in activity in the entertainment industry would also result in job losses in the production, manufacturing and retailing arms.

24
1.106 Therefore, an industry specific effect of piracy is that it is bringing about fundamental changes to a sector that relies on having adequate revenue to develop and maintain a constant stream of creative talent to attract customers, and which in the view of the industry could be seriously compromised if intellectual property rights are not adequately protected. In some ways, this effect is similar to the pressure being placed on innovation and R&D in other industry sectors that are severely affected by counterfeiting.

1.107 The continuing erosion of the sale of legitimate music was also attributed by the industry to the competitive effect of technology on the pirates themselves, because even though the quality of pirated CDs and DVDs has improved (especially when compared with earlier music and video cassettes), the cost of production has fallen rather than risen, due to the falling cost of computers and CD/DVD reproduction equipment.

1.108 In addition, the music industry (although this may also apply to films) noted that widespread music piracy has led to special discounted pricing campaigns or programmes in certain markets. However, the legitimate industry simply cannot compete with pirate prices, as the cost structure of the businesses is completely different. Pirates do not pay tax, they do not pay anything to other rights holders, they do not invest in new talent, they do not carry the economic risk, and they do not pay for marketing or invest in creating brands.

1.109 The need for this kind of response has not been frequently faced by the owners of IPR in other sectors, who although they have to contend with cheaper look-alikes, have generally not been confronted with low cost alternatives that can be virtually the same quality as the originals.

1.110 A respondent claimed that as the music and film industries accounted for a significant proportion of the GDP of some European economies, any shrinking of the sector due to piracy would have national, rather than simply industry, implications especially when reduced taxation revenues are taken into account.

1.111 In this respect, recent EU data indicates that the Copyright industry (which covers music, film, software, books etc) contributed EUR 1200 billion the EU economy, produced value added of EUR 450 billion, and employed 5.2 million persons in the year 2000. The total gross value added, which measures wealth added to the economy, represented more than 5.3% of the total value added for the (then) 15 EU Member States. In terms of employment, the industries contributed 3.1% of total EU employment (EU, 2006). This is a significant economic contribution to the EU, and would be paralleled in other economies, especially the USA, which highlights the potential broader economic losses that could flow from extensive activity by pirates.

**Specific impacts on the music industry**

1.112 While the IFPI data provides some very useful insights into the incidence of piracy in various economies, it does not provide disaggregated data on losses by IFPI members, beyond claiming that in 2005 around 1.2 billion pirated CDs were sold globally (outnumbering legitimate sales in 30 markets), that this represented about 37% of all music CDs sold, and that they were worth around USD 4.5 billion (IFPI, 2006). This dollar figure represented the value of the global pirate market at pirate prices.

1.113 IFPI does not estimate the level of substitution or displacement of genuine items by the pirated goods, so it makes no direct claims about the value of lost business due to the piracy.

1.114 However, a 2005 consumer survey carried out in the UK\(^{15}\) found that 45% of respondents would definitely have purchased the original item if the counterfeited alternative had not been available. This

\(^{15}\) Survey “Music Piracy in GB, March 2005” undertaken by IPSOS, information provided by IFPI in private correspondence.
figure would increase to 69% if those who would probably have bought the originals are included. This would represent a significant substitution rate (and therefore lost sales) in the UK. While broadly comparable figures could be entertained for similar developed economies, it is very likely that the substitution rate would be significantly lower in developing economies, so this figure cannot be extrapolated. Nevertheless, this survey at least shows that there appears to be a substitution effect on original products, and that this effect can be significant.

1.115 Apart for the IFPI and IIPA data, little other information on the effects on the music industry was provided in the survey, and this was based solely on the number and value of pirated items intercepted by police or customs authorities, whether by random or targeted searches, or by acting on tip-offs. This could provide a sense of the scale of the problem, and perhaps a hint of whether it is increasing or decreasing. However, data relating to seizures need to be treated with considerable caution, because this information is collected in a very unstructured way, and it is difficult to determine why changes have occurred. For example, a steep increase in seizures from year to year may indicate a growing production and trade, but could also indicate better (or luckier) surveillance by the owners of the IPRs, customs and police.

1.116 The scale of interceptions and confiscations reported by respondents to the OECD study was not particularly substantial, and the quantity and quality of data was uneven. For example, in 2004 a UK group reported seizures of items valued at GBP 1.4 million (basis of calculation not disclosed), while a Greek respondent reported that confiscations rose from 250 000 items in 2000 to a peak of 1.65 million in 2003.

**Specific impact on the film industry**

1.117 The MPA study “Cost of Movie Piracy” (MPA 2006) provides comprehensive information on its methodology and results. The Association claims (but the OECD has not verified) that this study is more rigorous than earlier efforts because:

- There is direct measurement of consumer purchasing/pirating behaviour.
- Estimates are based on rigorous consumer research (complemented by MPA experience).
- Data and calculations are consistent across territories.

1.118 The key elements of the MPA methodology used to estimate movie piracy rates and losses were:

- Focus groups and consumer surveys in the US and 21 other key international markets, macro-economic modelling used to extrapolate in another 42 countries.
- The directly researched countries constitute 95% of legitimate market and 80% of losses through piracy.
- Losses broken down by revenue streams (e.g. theatrical, home video) and source of content (e.g. bootlegged, copied).
- Adjustments for bias in survey methods and for seasonality.
- Adjustments made for “positive” effects of piracy (sampling of products by consumers).

---

16 The MPA study also covers Internet downloading of movies, but this is not covered by this phase of the OECD study.
• Results validated through several internal and external consistency tests.

• Based on this study, the losses incurred in 2005 by the MPA members (which essentially are the major US film studios) due to physical piracy were estimated to be around USD 3.8 billion.\(^7\) Globally, these losses were broken up as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Copying Losses (USD m)</th>
<th>Bootlegging Losses (USD m)</th>
<th>Total (USD m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>529</td>
<td>335</td>
<td>864</td>
</tr>
<tr>
<td>21 key int’l</td>
<td>593</td>
<td>1424</td>
<td>2017</td>
</tr>
<tr>
<td>Rest of world</td>
<td>242</td>
<td>648</td>
<td>890</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1364</td>
<td>2407</td>
<td>3771</td>
</tr>
</tbody>
</table>

Source: (MPA, 2006)

* The 21 key international markets are: Canada, Australia, UK, Germany, France, Sweden, Italy, Spain, Hungary, Poland, Russia, Hong Kong (China), Japan, China, Korea, Thailand, India, Mexico, Brazil, Chinese Taipei.

1.119 More specifically, the top 7 locations for MPA member losses, totalling around 60% of total losses, are shown in Table 1.5.

1.120 Of interest in this table is the number of OECD members in the list (perhaps indicating that even the laws of advanced economies are unable to limit access to pirated products) and the very large proportion of MPA member losses in the US and Japan attributed to copying losses rather than bootleg (implying substantial local production). Indeed, these locations are among a handful where copying losses exceed bootleg losses, and none of the others are close to these two with respect to the magnitude of the difference.

\(^7\) If digital and internet Piracy is included this figure would be USD 6.1 billion.

\(^8\) In this table, the terms “copying” and “bootlegging” are used in the context of the film industry as described in Box 1 in this sector study.
Table 1.5  Top 7 locations for MPA member losses 2005\(^{17}\)

<table>
<thead>
<tr>
<th>Location</th>
<th>Copying Losses (USD million)</th>
<th>Bootlegging Losses (USD million)</th>
<th>Total (USD million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>529</td>
<td>335</td>
<td>864</td>
</tr>
<tr>
<td>Mexico</td>
<td>5</td>
<td>430</td>
<td>435</td>
</tr>
<tr>
<td>UK</td>
<td>74</td>
<td>181</td>
<td>255</td>
</tr>
<tr>
<td>Russia</td>
<td>19</td>
<td>170</td>
<td>189</td>
</tr>
<tr>
<td>Japan</td>
<td>139</td>
<td>26</td>
<td>165</td>
</tr>
<tr>
<td>China*</td>
<td>2</td>
<td>148</td>
<td>150</td>
</tr>
<tr>
<td>Thailand</td>
<td>12</td>
<td>137</td>
<td>49</td>
</tr>
</tbody>
</table>

Source: (MPA, 2006).

* NOTE: The MPA noted that the calculation is based on the number of legitimate units that would have been purchased if pirated units were not available, assuming pricing and release restrictions at the time.

1.121 While the figures in Tables 1.4 and 1.5 represent losses of revenue to MPA members, the industry has also suggested that a better way of representing those losses would be to look at the estimates in the MPA report “The Cost of Movie Piracy” (MPA, 2006) from the perspective of what the study calls “consumer spending loss”, which the MPA claims represents a more complete market perspective by also covering losses to governments, non-MPA member production, local distribution outlets etc.

1.122 The usefulness of this approach is that it provides an industry estimate not only on losses to MPA members, but also losses incurred by others in the film industry. The data has one disadvantage in that it includes both physical and digital piracy (the focus of this study is on physical piracy), but it can still be useful to provide a snapshot of the broader impacts of piracy generally. Because of the presence of digital piracy in the data, instead of monetary amounts Table 1.6 shows the percentage of consumer spending losses attributed to MPA members as well as Local and Other products.

Table 1.6  Consumer spending losses 2005

<table>
<thead>
<tr>
<th>Location</th>
<th>MPA Members (%)</th>
<th>Local (%)</th>
<th>Other (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>94%</td>
<td>n/a</td>
<td>6%</td>
</tr>
<tr>
<td>21 key Int’l Markets</td>
<td>56.1%</td>
<td>30.4%</td>
<td>13.5%</td>
</tr>
<tr>
<td>Rest of World</td>
<td>71.5%</td>
<td>17.2%</td>
<td>11.3%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>64.8%</td>
<td>23.2%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: (MPA, 2006).

Details of the 21 Key International Markets are shown under Table 1.4.

1.123 Of interest here are the significant losses that are borne by local (non-MPA) producers, especially in the 21 key international markets, indicating that piracy does not just affect the US film industry (although it accounts for a substantial proportion of all film output), but also affects local interests.

Countermeasures taken

1.124 Respondents from both the music and film industries provided very similar comments to the OECD survey with respect to industry countermeasures to address the problem of piracy.
The seriousness of the piracy problem was evident in the number of respondents that highlighted the creation of special anti-piracy units, which have been given special mandates and resources to mount effective responses to the production, distribution and sale of pirated music and films.

These units are tasked to work with the appropriate authorities in many countries and territories as a co-ordinated response to piracy. From the industry’s perspective this is an effective response to counter piracy.

The anti-piracy units frequently complement these prosecutions under public law with civil legal action based on the specific IP laws of the country or territory in which they operate, thus maximising the industry response to piracy through both civil and criminal actions.

The anti-piracy units also act as effective lobby groups in order to mobilise government action and to encourage governments to provide additional resources to respond to piracy threats; a task which most respondents judged to be difficult because of the lack of government priority given to piracy. This lack of priority in turn impacts on the availability of resources (for example, to public prosecution offices) to effectively undertake the necessary action against pirates.

More than one respondent noted that while governments considered piracy to be an important issue, few in practice attached commensurate priority to the problem, most likely because music and film piracy is rarely considered a serious crime and therefore less deserving of attention than other more serious illegal pursuits. The high cost to both governments and industry of countermeasures to detect and deal with pirated goods was also stressed by industry respondents.

As well as direct action against pirates, respondents to the survey also highlighted the importance of educating the public on the effects of buying pirated products; in particular the effects on employees of the entertainment industries and the dangers of creative talent avoiding these industries if these are the subject of extensive piracy. These campaigns are seen as very important, and intended to achieve a long-term shift in public perceptions relating to piracy, but the short-term benefits are difficult to judge.

Some respondents, especially in the film industry, spoke about possible technical solutions to maximise copy protection, on the basis that if content was more difficult to copy, and if the originals are more easily and cheaply made available to the public, then the attractiveness of piracy would decline. From an industry perspective the logic of this approach is hard to fault, provided that the technical solutions and any laws that support them are effective, and that consumer rights are upheld.

In addition, copy protection needs to be carefully thought through in order not to breach consumer and privacy protection laws, and no doubt these issues will be prominent as the industry moves towards the widespread adoption of High Definition TV and the move to new, high capacity DVD formats. For a concise review of issues relating to the balance between effective IPR protection and the protection of the interests/rights of users, see OECD 2006a pp 23-30.

One respondent very succinctly listed the necessary conditions for effective anti-piracy responses, and these were:

- Effective and rigorously enforced anti-piracy laws.
- Effective intelligence gathering to quickly identify sources and markets.

These conditions are straightforward and simple on the surface, but have proven very difficult to achieve in practice, and will probably become even more so as both the music and film sectors continue to
encounter the transition from piracy being sold in hard media (CDs and DVDs) to direct transfer from one computer to another.

Organised crime

1.135 In the general sections of this report, the role of organised crime (a general term including both criminal gangs and terrorist groups) in counterfeiting and piracy has been frequently mentioned. The point of organised crime is that it is found most often where the potential for illicit profits is highest, and where there is a need for investment in production facilities, the creation and maintenance of complex transport and distribution channels, and the effective management of selling outlets.

1.136 These features are most evident in the manufacture of hard goods, which require quality blueprints, templates or masters from which to produce the fakes, the investment in machinery and the acquisition of skills, the creation of clandestine factories and the movement of (often bulky) items to their final markets.

1.137 Music and film piracy has in the past featured all of these elements, and as a consequence has also attracted the attention of organised crime, just like every other sector where counterfeiting and piracy exists. Reports produced by both the music and film industries (MPA, 2005 and IFPI, undated) lay out clearly the attraction to organised crime of the relatively low risk profits to be made from piracy in these sectors. Each report catalogues a number of specific instances when organised criminals and terrorist groups have been linked with music and film piracy.

1.138 However, the situation in these industry sectors seems to be changing, and as a consequence the future role of organised crime may become more uncertain.

1.139 For a start, the attractiveness of large, centralised production facilities (which are ideal for the involvement of organised crime) is declining, as the availability of cheap and powerful computing power enables music and films to be copied and reproduced in small-scale enterprises. This reduces the ability of organised crime to control supply and distribution, and forces them to move to the control of the sale outlets; something which itself becomes more difficult as the number of potential producers/distributors increases.

1.140 The inexorable move from hard copies of music and films on CDs and DVDs to files moved directly from computer to computer through the Internet will further reduce the ability of organised crime to participate in this sector, as in most cases it is impossible to locate the distributor of the music and films, who may reside in another country or continent, and therefore out of reach of the criminals; although the gradual introduction of High Definition and high capacity DVDs will ensure that there will remain a valuable market for hard media piracy.

1.141 In addition if more effective technology becomes available to protect hard media, this may make large scale piracy more difficult, which in turn may herald an new opportunity for organised crime to effectively re-enter the market, as they are likely to be the only groups that could extort or buy copiable versions of songs or films, and make the investments necessary for large scale piracy in the face of new technologies. Time will tell in which direction things will move in the future.

1.142 As a final word, lest this brief analysis be interpreted as meaning that organised crime no longer has any kind of role in these sectors, a number of respondents noted the links between piracy and organised crime and terrorism, and highlighted the fact that these groups have very effectively infiltrated music and film piracy, and that as a consequence the effects of their involvement will be evident for some time to come. In particular, see the MPA and IFPI report on organised crime (MPA, 2005 and IFPI, undated).
ATTACHMENT

Propensity to Produce or Consume Pirated Audio-Visual Goods

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECT ON PROPENSITIES TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit Profitability</td>
<td>Profit margins can be generous</td>
</tr>
<tr>
<td></td>
<td>While the unit cost of producing pirated optical discs, especially in small-scale runs would be higher than those that are mass produced, the cost is still well below USD1 per item, and there is sufficient profit margin (by avoiding music/film production and risk, advertising and promotion, royalty payments and taxes, etc) to encourage pirates to produce items for their markets.</td>
</tr>
<tr>
<td>Market size</td>
<td>Large, mass market</td>
</tr>
<tr>
<td></td>
<td>The entertainment market, whether for domestic or imported music and film content is very large and widespread, and is supported by the star status of performers and the heavy promotion of products by the industry, none of which is borne by pirates.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>Extremely strong</td>
</tr>
<tr>
<td></td>
<td>Artists, whether in the music or film industry represent very strong “brands” with large, enthusiastic fan bases. Some films and songs attract a following in their own right, thus creating a strong demand on the pirate market, especially when eagerly anticipated new material becomes available.</td>
</tr>
<tr>
<td><strong>Production, distribution &amp; technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production Investments</td>
<td>Moderate investment required</td>
</tr>
<tr>
<td></td>
<td>Only a moderate amount of investment in computers and printers is necessary to produce potentially high quality pirate CDs and DVDs, so that production can be undertaken in small-scale enterprises near local markets.</td>
</tr>
<tr>
<td>Technology</td>
<td>Technology not a barrier</td>
</tr>
<tr>
<td></td>
<td>Some technology is required in order to produce the CDs and DVDs, but this is readily available, easy to use and constantly falling in price, and does not constitute a significant barrier for the production of pirated products.</td>
</tr>
<tr>
<td>Logistics</td>
<td>Logistics are becoming easier</td>
</tr>
<tr>
<td></td>
<td>While CDs and DVDs are still being mass produced in central locations to reduce the cost of production, even for films (which pose a greater technical challenge than music) this mode of operation is gradually moving to either small-scale enterprises, or to digital piracy, which largely remove the need to transport the products. While small runs are more expensive than mass production, profits margins are adequate to compensate, especially as this also minimises the need for complex transport and distribution logistics, as well the risk of detection when crossing national borders. Also, the interplay between Internet distribution of masters and the local production of hard media pirate goods is further simplifying the logistics.</td>
</tr>
</tbody>
</table>
## Marketing and sale

**Ready markets**

Pirates can piggy-back on the extensive promotion and advertising undertaken by legitimate producers. Also, pirated music and films are in themselves innocuous items that can be sold almost anywhere, from street corners, to markets and in the case of the very best products even in legitimate stores alongside the original markets. The Internet also provides a ready way to find customers, and facilitates the placement of orders for special compilations, or particular movies.

## Ability to conceal operations

**Becoming easier**

As with any mass production activities large facilities can be difficult to conceal. However, the growing move to smaller, more mobile and more easily concealable small-scale enterprises means that this risk is diminishing.

## Ability to deceive

**Deception unnecessary**

The ability of pirates, through the use of easily available computer equipment to compile and produce CDs and DVDs containing audio and visual content that can be virtually indistinguishable from the original, means that there is no need for deception. What pirates offer their customers, in most cases, are essentially the equivalent of the original items, and while sound and video quality can vary it is improving.

## Institutional characteristics

<table>
<thead>
<tr>
<th>Risk of discovery</th>
<th>Moderate, but diminishing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As long as hard media is produced in centralised location, with subsequent transport to markets, there is a chance that pirates will be detected, especially if they have to cross customs borders, and this remains a substantial risk. This risk declines significantly if CDs and DVDs are produced locally in small-scale enterprises, where the need to move product is minimised.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enforcement</th>
<th>High if detected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The entertainment industry is extremely active in defending its copyright material; frequently in cooperation with enforcement authorities. Pirates can expect to be aggressively pursued through a variety of public and private legal action if detected. However, the industry perspective is that piracy has a relatively low priority for governments in the allocation of resources.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Penalties</th>
<th>Penalties appear not to deter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>While the rate of success in court action (whether criminal or civil) is likely to be high, the industry experience (in line with experience in other industry sectors) is that penalties are not always applied fully, which results in high levels of repeat offenders. In particular, where penalties are purely financial, (such as fines) they can be treated by pirates as simply another operating cost.</td>
</tr>
</tbody>
</table>

## FOR CONSUMERS

### EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS

<table>
<thead>
<tr>
<th>Product Characteristics</th>
<th>Acceptable to consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>By and large, the experience in the market is that consumers are willing to buy pirated items at the prices offered, as these are generally well below the comparable prices of the legitimate equivalents.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality and nature of product</th>
<th>Generally acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As with all counterfeited products, the quality of the products can vary. However, in the music and film sectors technology has provided pirates with the capability of producing, as long as they have high quality “masters”, very high quality products that can be virtually indistinguishable from the original. In other cases (such as video cam copies of theatre performances) consumers appear to be willing to trade-off quality for</td>
</tr>
</tbody>
</table>
immediacy. In addition, the flexibility of “cherry picking” content also provides considerable incentive for consumers.

<table>
<thead>
<tr>
<th>Ability to conceal status</th>
<th>Not an issue in this sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This element refers to the ability of consumers to deceive their peers into believing that they are actually in possession of an original item. In the music and video sectors they generally are in possession of the equivalent of an original item, so this is not a significant issue.</td>
</tr>
</tbody>
</table>

**Consumer Characteristics**

<table>
<thead>
<tr>
<th>Health concerns</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This is not a factor in this sector.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Safety concerns</th>
<th>Minimal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Apart from possible safety problems where organised crime is involved, there are no personal or public safety issues that would affect the buying decisions of consumers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personal values</th>
<th>Not an important issue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experience in the market, and comments made by many consumers regarding piracy, it seems that this is not considered to be a serious crime; indeed many argue that piracy is not a crime at all, as nothing “physical” is stolen from the artist or music or film company. In essence, personal values do not seem to play a significant role when consumers buy pirated items.</td>
</tr>
</tbody>
</table>

**Institutional characteristics**

<table>
<thead>
<tr>
<th>Risk of discovery</th>
<th>Moderate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The likelihood of detection for the consumer is likely to be moderate at best., and its impact on consumers is likely to vary according to level of local enforcement.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk of prosecution</th>
<th>Moderate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>While prosecution is aggressively carried out by the entertainment industry, including in some cases through the targeting of consumers (especially on peer-to-peer networks), the actual risk in practice of a court appearance because of the purchase of a pirated CD or DVD is probably low.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Penalties</th>
<th>Generally low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>While some moderately severe penalties are available to deal with offenders, in practice it would probably be unlikely for these to be applied to the casual consumer of pirated, hard media products, especially when small quantities are involved.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Availability and ease of acquisition</th>
<th>Freely available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Music and film CDs and DVDs are easily available to consumers, and can be found in most street markets around the world</td>
</tr>
</tbody>
</table>
References


Global Sources, 2005. *China Sourcing Report: Optical Drives and Accessories*

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IIPA (2006b) Copyright Protection and Enforcement Around the World: IIPA’s 2006 Special 301 Report to the USTR. Available at: www.iipa.com/special301.html

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MPA (Motion Picture Association) (2005) *Optical Disc Piracy v. Illegal Drug Trafficking*


RIAA (2006b), *US Manufacturers’ Unit Shipment and Value Chart*. Available at [www.riaa.com/issues/piracy](http://www.riaa.com/issues/piracy)

CHAPTER 2. AUTOMOTIVE SECTOR

General description

2.1 This section of the report covers the international automotive industry. The main counterfeiting activities are focused on automotive components, such as parts and accessories that are used in the manufacture, repair and modification of all types of motor vehicles, from motorcycles, to passenger vehicles (cars, buses etc) as well as vehicles intended for the carriage of goods.

2.2 As well as the copying of parts and components (which would almost certainly be trademark infringements), there is also evidence that patent and design infringements, ranging from individual components to entire vehicles, are also taking place.

2.3 In common with all instances of counterfeiting, both consumers and the producers of the original products are at risk from the circulation of fakes. On the monetary side, there have been estimates attributed to the US Federal Trade Commission, and not challenged by the industry, that counterfeiting costs global automotive parts industry USD 12 billion a year – of which USD 3 billion is in the US alone (MEMA 2005). This is significant, even in an industry which the Motor & Equipment Manufacturers’ Association (MEMA) estimates has yearly global sales in excess of USD 330 billion.

2.4 However, in the automotive sector there is quite a separate concern from that of buyers simply not receiving what they thought they were buying. With motor vehicles, as well as the economic implications of intellectual property right (IPR) infringements, the usage of counterfeit parts may also affect both the performance and the safety of the motor vehicles. When tested, counterfeited safety-related parts (for example, brake pads, suspension and steering components and air bag assemblies) have frequently been found to be inferior, and not suited for their intended purpose, and their failure could result in serious accidents involving deaths or injuries.

2.5 This adds a substantially different dimension to the consideration of the effects of counterfeiting in the sector.

Types of infringements

Trademark infringements

2.6 The available evidence is that the copying of trademarks constitutes the greatest proportion of IPR infringements in the automotive sector. Principally, this manifests itself as the affixing of well known trademarks to non-genuine auto parts, which are then sold as original items. Numerous instances of such trademark infringements have been catalogued covering items as diverse as disc brake pads, clutch plates, oil filters, suspension and steering components and spark plugs.

2.7 The auto parts affected may range from replacement parts that are of relatively good quality (sometimes production “overruns” of original components) that are illegally labelled with the original trade mark to command a higher price, to complete fakes that are made to look like the original parts, but which may be quite inferior to the originals and perhaps even dangerous.
2.8 However, the industry also noted that in some parts of the world (especially in North America), the risk of detection of trademark infringement was increasingly driving counterfeiters to market substitute parts with no branding information, which in some cases has even led to the counterfeiters creating their own brands. Strictly speaking, because no intellectual property rights were infringed, this practice would not be counted as counterfeiting, even though this results in non-original parts being sold to consumers.

**Patent infringements**

2.9 The automotive industry is characterised by technological innovations and industrial processes that are in some cases covered by patents. As they are on the public record these patents are therefore at constant risk of being copied or otherwise infringed; for example through the reverse engineering of an automotive gearbox or other technical equipment. Respondents to the OECD survey noted in particular that patent breaches could also occur through production “overruns” of legitimate parts, or by the passing over of specifications and production details to potential counterfeiters by contractors producing original components for motor vehicle manufacturers.

2.10 However, the industry also indicated that patents generally cover high order components and processes, and that these are less likely to be the target of counterfeiters, who tend to target lower order components that are less technically challenging. This would explain to a large degree the relative absence of patent infringement problems in inputs received from the automotive sector.

**Design infringements**

2.11 Beyond the counterfeiting of motor vehicle parts (which may involve both trademark and design infringements) there are also increasing reports of design infringements involving the production of entire vehicles. In essence, this involves the copying of body shape, mechanical layouts and interior designs to create vehicles that are outwardly very similar to those that have been copied, but probably with sufficient differences to allow the argument that they are actually derivative designs, and not copies.

2.12 The copying of the designs allows the counterfeiter to benefit from the creative innovation of others, as well as from the promotion, advertising and image building investments made on the originals.

2.13 A number of examples of such alleged design infringements are available, but just two alleged are used here for illustrative purposes.

2.14 In mid-2005 there were reports of apparent design similarities between an off-road vehicle (called the Landwind), produced in China and exported to Europe, and the GM Opel Frontera.

2.15 As of the time of writing it was not clear whether GM would take legal action to protect its design, in part because the Frontera (and similar models in other countries) were no longer being produced, and partly because of the complications of cross alliances. Jangling Motors is a joint venture partner in the manufacture of trucks with Japan’s Isuzu Motors, which is itself a GM ally, and the original Frontera design came from Isuzu Motors. There was a further twist, in that a group of Opel dealers in Germany were reported to have signed a deal with the Landwind importer to place the vehicles in their showrooms.

2.16 The Japanese manufacturer Toyota also found dual cab pick-up trucks being manufactured by a company in China that bore very close visual resemblance to its Highlux model. In addition, as well as the possible design issue, the Chinese made vehicles were called “Tayota” (instead of Toyota), and carried a grill and bonnet emblem that bore very close resemblance to that registered and used by Toyota.

2.17 In other words, as well as design similarities, in this instance there also appeared to be what could be described as an attempt to confuse potential buyers (especially those in less sophisticated markets) into
believing that they were in fact purchasing an original Toyota vehicle, or at least a vehicle that was somehow built with the involvement of the Japanese manufacturer.

2.18 These examples of possible design infringement demonstrate both sides of the coin. On the one hand, the similarities in the vehicle designs of the examples shown above seem clear, and it is easy to understand the claims of the originators of the designs that their intellectual property has been interfered with. On the other hand, legally establishing that the designs are sufficiently similar to constitute an infringement of an Intellectual Property Right is quite a different challenge, and it seems that none of the manufacturers affected have been able to take positive and successful steps to deal with the apparent infringements.

2.19 In the case of the Toyota Hilux copy, it is possible that this could be prevented from being exported into other countries where design registration may offer a higher level of protection, but in the case of the “Landwind” this has already been imported into Europe, and it is not clear whether its legal status will be challenged there.

Summary

2.20 As a general comment on infringements, without exception respondents to the OECD survey indicated that the infringement of trademark was the most significant problem that they faced. Indeed, the Japanese Automotive Manufacturer’s Association (JAMA)\(^\text{19}\) noted that every one of its members had been affected by trademark infringements, while three-quarters had experienced design infringements. However, only one third had been affected by breaches of patents. These results are broadly consistent with reports by the broader international automotive community that responded to our survey.

Products most affected

2.21 The most likely targets of counterfeiting in the automotive sector are products in the after-market for spare parts and accessories. The reason for this is that it is unlikely (even if not impossible) that original manufacturers would source components for new cars from anywhere other than their own factories, or known, contracted producers of specialised parts and equipment.

2.22 Because the integrity, performance and safety of original parts are so important to vehicle manufacturers (from regulatory, customer, image and legal/liability perspectives) it would be quite difficult for counterfeiters to infiltrate such relatively closed and tightly controlled environments. For counterfeited parts to enter the legitimate supply chain there would almost certainly have to be inside involvement, which may be possible through either corruption in the system, or perhaps through pressure from criminals. Of course, if such infiltration did occur, then the likely rewards for the counterfeiter would be high.

2.23 However, for a number of reasons the automotive after-market sector is a much easier, and therefore a more attractive, environment for counterfeiters to work in.

2.24 First, as already noted the infiltration of the small number of large, influential and well resourced vehicle manufacturers, who have considerable interest in ensuring the integrity of parts used to build their vehicles, would be difficult. However, the after-market sector consists of thousands of mainly small firms involved in the repair and maintenance of motor vehicles, and an even greater number of individual car owners who purchase parts and accessories. Both of these groups are amenable to using “non-genuine” parts if these are cheaper and thought to be reasonable substitutes.

\(^{19}\) Reported in confidential material made available to the OECD.
2.25 Second, as the size of the potential market for counterfeit products broadens, the level of expertise on the provenance (and appropriateness and safety) of the parts diminishes, because in the vehicle after-market many such parts are purchased on the basis of an acceptable visual similarity between the copies and the originals, rather than on comparisons of their technical performance. Because of this, there is growing concern at the greater sophistication being shown by counterfeiters, who use readily available technology to make the fake products look and feel identical to the originals, even though their actual performance may be well below that of the original items.

2.26 Third, as the potential market broadens, price and not provenance becomes the principal yardstick for buying decisions. Therefore, car service and repair yards may substitute non-genuine parts to increase their profits, as well as reducing the cost to their customers of the work undertaken. Private car owners, with even less expertise regarding the suitability of replacement parts, are also more likely to treat cheap car parts as “bargains”.

2.27 There are no readily available extensive data to provide specific guidance on which motor vehicle parts are most frequently counterfeited, but industry experience is that parts most likely to be affected are those on vehicles that have been on the market for at least 3 or 4 years (in order to maximise the size of the available market), and affect those parts that are the fastest moving, are the easiest to copy, and provide the best profit margins for the counterfeiters.

2.28 Examples of such parts would be spark plugs, shock absorbers, and filters of various types (filters were identified by a major truck manufacturer as easily the most counterfeited part in its range). Brake components (including pads and linings), suspension and steering components, body panels, bearings, windscreens, tyres, all types of lights and engine parts (including engine mounts) have also been frequently mentioned in survey responses as targets for counterfeiting. Some parts may also affect the quality of emissions released into the environment.

2.29 In some cases, the items that bore the fake trademark were not part of the affected manufacturer’s production line, and while these examples could be viewed as simple misuse of trademarks and brand names rather than the counterfeiting of specific parts or components, there could still be damage to the affected manufacturer.

2.30 The observation from a major truck manufacturer was that although the scope of products being infringed has remained relatively constant over the past few years, the number of infringements that it has detected has increased.

2.31 The following table (Table 2.1), provided by a major European motor vehicle manufacturer, provides some additional guidance on the range of products affected and their relativities, as measured by the value of components seized by the company concerned in 2005 during co-ordinated action with law enforcement authorities.
Table 2.1 Volume of auto parts seized in 2005

<table>
<thead>
<tr>
<th>Auto Part</th>
<th>Value EUR millions</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brake discs</td>
<td>2.7</td>
<td>18.0%</td>
</tr>
<tr>
<td>Control arms</td>
<td>2.6</td>
<td>17.3%</td>
</tr>
<tr>
<td>Brake pads</td>
<td>2.5</td>
<td>16.7%</td>
</tr>
<tr>
<td>Engine mountings</td>
<td>2.4</td>
<td>16.0%</td>
</tr>
<tr>
<td>Steering components</td>
<td>0.8</td>
<td>5.3%</td>
</tr>
<tr>
<td>Oil and oil filters</td>
<td>0.5</td>
<td>3.3%</td>
</tr>
<tr>
<td>Oil pumps</td>
<td>0.5</td>
<td>3.3%</td>
</tr>
<tr>
<td>Water pumps</td>
<td>0.5</td>
<td>3.3%</td>
</tr>
<tr>
<td>Accessories</td>
<td>0.4</td>
<td>2.7%</td>
</tr>
<tr>
<td>Belt tensioners</td>
<td>0.3</td>
<td>2.0%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1.8</td>
<td>12.0%</td>
</tr>
</tbody>
</table>

2.32 Similar data provided by a North American manufacturer contained the following break-down of affected components:

- 30% filtering products.
- 25% accessories.
- 20% brakes and spark plugs.
- 25% other components.

2.33 The most concerning aspect of this information is the fact that some of the most widely represented items (e.g. brake and steering components) are all capable of seriously affecting the safety of the motor vehicle, and their failure could result in serious accidents, which as well as causing serious injuries or deaths could also be attributed to the manufacturers of the motor vehicle, when they could in fact be blameless.

Magnitude, scope and trend of infringements

2.34 Because counterfeiting is an illicit activity, information on the extent and level of incidence in particular markets is unavoidably unreliable, and data are generally derived (as they are for other illicit activities) from shipments that are intercepted and the discovery of counterfeited items available in the market place.

2.35 One of the problems with this derived information is that apart from it being incomplete, it is also difficult to establish whether changes in interception rates are attributable to changes in the manufacture, trade and sale of counterfeits, or changes in the success rate of detections, or both. Acknowledging these limitations, the following indicators came to light during the OECD Survey of counterfeiting in the automotive sector.

2.36 A manufacturer provided an indication of the incidence of trademark infringements in the Middle East which, in brief, showed that the number of cases exposed rose from around 50 in 2000 to over 200 in 2003, and that the number of counterfeited items involved also rose from almost 400 000 to over 1.3 million over the same period.

2.37 Another manufacturer estimated that with up to 30% of all spare parts sold in some Middle Eastern and Asian markets being fakes, these were the regions with the greatest penetration by counterfeits.
The corresponding number for the EU market was around 5\%\textsuperscript{20}. This concentration of counterfeiting activity (if not actual manufacture) in the Middle East was also reflected by other firms in the automotive sector.

2.38 A similar figure on market penetration was identified by the Automotive Component Manufacturers Association of India, which found in a 2003 study that in the local after market there was a 37\% chance of a counterfeited part being used\textsuperscript{21}.

2.39 Of interest is that a group of motor vehicle manufacturers have established the “Automotive Brand Protection Coalition”,\textsuperscript{22} located in Dubai, to educate the public and lobby governments to strengthen their protection of IP rights.

2.40 Whether intended or not, the location is significant, as the UAE has been frequently mentioned a favourite gateway used by counterfeiters, and statistics produced by the Coalition tend to support this status.

2.41 In July 2005 the Coalition reported a seizure of a quarter million fake car parts. This was described in the report as representing just the “tip of the iceberg”. The Coalition also listed a report in the “Gulf News” that USD 1 million dollars worth of Chinese made fake sparkplugs, labelled with the names of various motor vehicle manufacturers, had been seized at Jebel Ali Port in 2005.\textsuperscript{23} The Coalition’s web site contains numerous other similar reports of discoveries and seizures.

2.42 As a guide to the size of the potential automotive counterfeit market, a major manufacturer also reported that counterfeit production volume for both domestic and export markets in North Asia may reach EUR 100 million a year, based on the local retail value of genuine parts.

2.43 The same manufacturer also reported that it had itself seized counterfeited parts and accessories in China with a retail value of some EUR 6 million, and that it deals with around 600-700 cases of IPR infringements each year.

2.44 In addition, an Intellectual Property Working Group, established by the representatives of most of the major world motor manufacturers endorsed an estimate by the US Federal Trade Commission that losses by the US auto industry approach USD 3 billion in the US, and USD 12 billion globally. The WG also reported that annual losses incurred by the Japanese machinery industry (including motor vehicle manufacturers) in Asia approach USD 7.5 billion\textsuperscript{24}.

Factors that drive counterfeiting production and consumption

2.45 This section examines various factors that drive the production and consumption of counterfeited automotive parts and accessories. Each product sector has its own peculiar characteristics that will in part determine and shape those drivers, and the recognition and understanding of these drivers can provide insights on the likely propensity for that category of goods to be produced. In turn this may provide some guidance on the likelihood that such products can be found in the market place and may support statistical

\textsuperscript{20} The substantially lower penetration in the EU was attributed by the industry to the EU’s direct distribution systems, which prevent the direct selling by third parties to distributors and re-sellers of automotive parts.

\textsuperscript{21} See www.acmainfo.com

\textsuperscript{22} The Coalition’s members are: BMW, GM, Honda, Mercedes Benz, Nissan and Toyota.


\textsuperscript{24} Information provided to the OECD by the automotive industry IP Working Group.
data collected through customs interdictions, police raids on production and retail facilities, the results of legal action and other market based data. Moreover, the propensities could provide important insights into how surveys and economic modelling could best be used to improve measurement.

2.46 In the summary table below (Table 2.2), the drivers that are considered to apply in the automotive sector have been judged on whether, and to what extent, they are favourable or unfavourable for the production and consumption of these counterfeited goods.

2.47 A detailed explanation of the derivation of these propensity factors can be found in the Attachment to this sector analysis.

Table 2.2 Propensity to produce or consume counterfeited automotive goods
(See Attachment for more detailed explanation)

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECT ON PROPENSITIES TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>High when consumers deceived</td>
</tr>
<tr>
<td>Market size</td>
<td>Large, mass market in most countries</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>Most automotive brands high global and/or local exposure.</td>
</tr>
<tr>
<td><strong>Production, Distribution and Technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production investments</td>
<td>Could be high to fabricate certain components</td>
</tr>
<tr>
<td>Technology</td>
<td>Could be a barrier in the production of certain components</td>
</tr>
<tr>
<td>Logistics</td>
<td>Bulk could be problem, but innocuous nature of items would balance this</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>In most locations needs infiltration of established motor parts and accessories after-market distribution/retail chain</td>
</tr>
<tr>
<td>Ability to conceal operations</td>
<td>Large scale fabrication facilities needed, would be difficult to conceal or move.</td>
</tr>
<tr>
<td>Ability to deceive</td>
<td>Easy to deceive consumers, likely to encourage production</td>
</tr>
<tr>
<td><strong>Institutional Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Risk of discovery</td>
<td>Moderate but acceptable risks, especially if documentation is legitimate</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Experience shows this risk to be low</td>
</tr>
<tr>
<td>Penalties</td>
<td>Experience by the industry suggests that penalties are inadequate to deter</td>
</tr>
<tr>
<td><strong>FOR CONSUMERS</strong></td>
<td>EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS</td>
</tr>
<tr>
<td><strong>Product Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>Needs to be low to convince consumers that counterfeits are acceptable substitutes</td>
</tr>
<tr>
<td>Quality and nature of products</td>
<td>In outward appearance very similar to originals. Consumers unable to make judgements on technical suitability</td>
</tr>
<tr>
<td>Ability to conceal status</td>
<td>Status not an issue in purchasing decisions</td>
</tr>
<tr>
<td><strong>Consumer Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Health concerns</td>
<td>Not a factor</td>
</tr>
<tr>
<td>Safety concerns</td>
<td>Actual risk high but consumers may accept, or be unaware of, risk</td>
</tr>
<tr>
<td>Personal values</td>
<td>Probably not a factor, especially when consumers see counterfeits as alternatives to necessary, but expensive components</td>
</tr>
</tbody>
</table>
## Institutional Characteristics

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of discovery</td>
<td>Detection by authorities unlikely</td>
</tr>
<tr>
<td>Risk of prosecution</td>
<td>Risk low, likely to be treated as victims</td>
</tr>
<tr>
<td>Penalties</td>
<td>Unlikely that heavy penalties would be applied</td>
</tr>
<tr>
<td>Availability and ease of acquisition</td>
<td>As many components are specialised, availability may be somewhat limited</td>
</tr>
</tbody>
</table>

2.48 The interpretation of these propensity factors needs some caution, as regardless of the strength of their effect on propensity, not all drivers will carry the same weight in the decision-making process. As a simple example, the difficulties with transport and distribution of counterfeited auto parts may not be sufficient to overcome the prospective profit margins available to the counterfeiters. As another example, the fact that unlike drug dealing, the penalties for producing/distributing counterfeits tend to be comparatively minor, would tend to increase the propensity for organised crime to redirect its organisational skills towards counterfeiting rather than other forms of crime (an observation made by a number of respondents to the survey).

2.49 The drivers that operate in the automotive sector lead to the broad conclusion that there would be considerable propensity for the manufacture and consumption of counterfeited auto parts and components. Principally this is because there is likely to be a strong profit motive for manufacturers, together with potentially very large global market opportunities for the goods. In addition, because the counterfeited items would generally be considered as relatively innocuous from a manufacturer, distributor and customer point of view, there are fewer prospects of detection and prosecution, and in any case penalties are likely to be lower than some other kinds of illicit activity.

2.50 The only issues that could raise some concerns for counterfeiters is that auto parts require a certain degree of investment in fabrication equipment and technology, but for the right people (e.g., those with surplus manufacturing capacity) this is unlikely to be a serious problem. The other negative factor is the complexity of transporting and distributing the counterfeited goods to their markets (which implies the possibility of detection at customs borders) but again, this is unlikely to deter counterfeiters that are backed by substantial resources and organisational skills; such as those available to organised crime.

2.51 Overall, the drivers for the automotive sector would suggest that this would be a sector subject to substantial counterfeit activity, with manufacturing likely to be located in areas/countries with excess manufacturing capacity and lax IP right protection. On the consumer side, the market is likely to be worldwide, given the penetration and growing homogeneity of motor vehicles, and the problems in detecting and dealing with consumers of such items, especially as many would be designed to deceive the final customer, would act against consumers effectively protecting themselves by avoiding fake items.

### Centres of counterfeit production

2.52 With respect to trademark infringement, China has been repeatedly identified as the principal source of counterfeit activity in the automotive sector, involving both trademark and design infringements. For example, a major Japanese manufacturer indicated that in its experience almost 90% of the cases affecting its products involved China. Other locations identified as being very significant were Chinese Taipei, Thailand, Turkey, Russia the Middle East and Latin America.

2.53 The table below (Table 2.3) provides a summary of the frequency with which localities were mentioned in the OECD survey in conjunction with counterfeiting activity.
2.54 Another motor vehicle manufacturer found that the vast majority of counterfeit auto parts are manufactured in China, with specific regions focusing on counterfeiting specific products. For example, a city in south-eastern China is claimed to be saturated with factories producing counterfeit spark plugs.

2.55 More specifically, a major North American manufacturer reported a case study involving a major trade (valued at over USD 150 million) in fake spark plugs manufactured in Yancheng, China, and distributed to the US, Canada, Europe and the Middle East.

2.56 While some counterfeit auto parts are used domestically in China the majority are exported worldwide, including to the Middle East, North Africa, Eastern Europe, Mexico and North and South America.

2.57 With respect to design infringement, the situation is less clear, even though there have been numerous accusations over the years of such breaches around the world. Part of the problem with this type of infringement is that although there may be recognisable similarities between the design of motor vehicles (as well as other goods) this of itself does not prove the existence of an infringement of the design, and complex (and expensive) legal actions may be necessary to establish that an infringement has occurred. Advice from the automotive industry is that such actions are few and far between, especially in developing and emerging markets.

2.58 The inclusion in this report of some examples of claimed design infringement originating in China, should not be taken as evidence that China is the only, or even the principal, place where such infringements may be taking place, but rather it is a reflection of the existence of claims in the public arena by major car manufacturers when this report was being drafted.

**Modes of operation and movement of counterfeited goods**

2.59 Many of the counterfeited goods in the automotive sector are produced for export to other markets. This is particularly the case for copied items that are intended for luxury cars, as these items would carry a price premium if they could be sold as originals to unsuspecting buyers.

2.60 Generally car parts are voluminous and heavy, and therefore do not lend themselves to casual, small time smuggling into export markets. Therefore, these items tend to be consigned as relatively large shipments in containers, through normal transport routes, as if they were legitimate consignments.
2.61 During a series of investigations in China, a respondent found that counterfeit producing factories, which vary in size and output, respond to orders for counterfeit goods placed by export companies, usually located in a large Chinese port city. The export companies themselves tend to be hired by offshore business entities to fulfil counterfeit orders. According to the respondent these entities are often located in Hong Kong (China) and Chinese Taipei.

2.62 The counterfeit parts would be shipped from these factories to the exporter via truck, who would then arrange for their export via shipping container. The goods are then shipped worldwide either directly to their final destinations or to an intermediate waypoint, or gateway, to minimise the chances of detection at the final destination.

2.63 While motor vehicle parts are sometimes smuggled, the industry experience has been that counterfeiters tend to rely on protection on the low rate of container inspection, the generally innocuous nature of the items being transported, and the relatively low priority given to counterfeited goods by customs border controls, which are more likely to target drugs, explosives and weapons.

2.64 Generally, the contents of such containers would be accurately labelled (i.e. air filters would be described as air filters) and would be accompanied by correct Bills of Lading and other documentation. It would be left to customs officers to somehow detect that the items were counterfeited, which in many cases would be difficult given the sophistication of the accompanying packaging and labels. Generally, it would be very difficult for a customs officer to know whether a part was genuine or fake from a simple visual inspection, and technical testing by the manufacturer of the original parts may be necessary in order to identify fake parts. One respondent noted that even holograms, which constitute one of its major security devices, are being perfectly imitated, which increases the complexity of identifying the counterfeited items.

2.65 In addition, sophisticated counterfeiters take additional precautions to minimize the chance of detection. For example, many counterfeits are shipped without specific packaging or trade marks, and these would be described simply as “generic” goods (say filters, or brake pads). At this stage there would be no obvious trademark infringement, and it would be difficult for such goods to be intercepted and held by customs or other authorities. The appropriate markings and packaging would be added prior to entering the market in the country or region of final destination.

2.66 Another characteristic of the trade in counterfeited automotive components is that the counterfeiters frequently ship their goods through intermediate ports, or “gateways” that are likely to attract less attention by customs officers at final destination. In particular, free-trade zones that exist around the world were identified as such “gateways” by survey respondents in the automotive sector. As a general rule, as long as goods do no enter the territory of the country in which the free-trade zone is located, and unless there is clear evidence of criminal/terrorist involvement in the goods, then custom inspections would not be carried out in the free-trade zones. These free-trade zones are sometimes also used to value-add to the goods (perhaps by packaging or re-labelling them), or to trans-ship them, so that their actual origin can be disguised.

2.67 One respondent to the OECD questionnaire noted that Hong Kong (China), Turkey and the United Arab Republic were the most often used gateways to transport counterfeits of their parts and accessories.

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25 It is noted that the World Customs Organization (ACO) has under consideration proposals to better control goods entering and leaving free-trade zones, perhaps through measures that operate for goods in transit in other ports.
Another respondent noted that the majority of counterfeited auto parts are first sent to key transit points before being exported to their final destinations. In that respondent’s experience the main counterfeit product distribution point in the Middle East is Dubai, which is used as the gateway for Saudi Arabia, Egypt and Lebanon, as well as being a major point for redistribution to European destinations.

Again, in that respondent’s experience the key distribution area for North African countries (including Morocco, Algeria and Tunisia) is Malta, while Colombia is the key transit area for the distribution of counterfeit products into Latin/Central/South America. A respondent has claimed that counterfeit goods intended for the United States appear to go through Canada. Finally, Bulgaria has been identified by that respondent as a possible transit point for the distribution of counterfeit products to other Eastern European countries.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Localities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequently Mentioned</td>
<td>UAE/Dubai</td>
</tr>
<tr>
<td></td>
<td>Hong Kong (China)</td>
</tr>
<tr>
<td>Moderately Frequently Mentioned</td>
<td>Lebanon</td>
</tr>
<tr>
<td></td>
<td>Singapore</td>
</tr>
<tr>
<td></td>
<td>Turkey</td>
</tr>
<tr>
<td></td>
<td>Eastern Europe</td>
</tr>
<tr>
<td>Sometimes Mentioned</td>
<td>Jordan</td>
</tr>
<tr>
<td></td>
<td>Chinese Taipei</td>
</tr>
<tr>
<td></td>
<td>Saudi Arabia</td>
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<tr>
<td></td>
<td>Egypt</td>
</tr>
<tr>
<td></td>
<td>Malta</td>
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<tr>
<td></td>
<td>Colombia</td>
</tr>
<tr>
<td></td>
<td>Canada</td>
</tr>
<tr>
<td></td>
<td>Bulgaria</td>
</tr>
</tbody>
</table>


All this suggests that there are highly developed networks in place in order to source, transport and distribute counterfeited automotive parts and components. This is quite consistent with the nature of such components, which require relatively sophisticated equipment and manufacturing skills to fabricate them. Only a limited number of localities can produce these counterfeited products, while markets span the world, thus requiring quite substantial and complex transport and distribution arrangements to move the goods to their respective markets.

As additional evidence of the breadth and depth of distribution of counterfeited automotive parts, a raid undertaken by authorities on behalf of a major European manufacturer on a large counterfeit manufacturing plant in China, yielded a mass of shipping documents related to the transportation of the fake parts being produced. The table below shows the number and location of individual organisations and individuals that the factory was dealing with in various parts of the world.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>315</td>
</tr>
<tr>
<td>Middle East</td>
<td>115</td>
</tr>
<tr>
<td>SE Asia</td>
<td>97</td>
</tr>
<tr>
<td>East Asia</td>
<td>23</td>
</tr>
<tr>
<td>Western Europe</td>
<td>21</td>
</tr>
<tr>
<td>Central Europe</td>
<td>5</td>
</tr>
<tr>
<td>Africa</td>
<td>3</td>
</tr>
</tbody>
</table>

Information provided confidentially to the OECD.
2.72 With respect to design infringements, there seems to be no issues related to the transportation of goods, as most of the copies are sold in home markets, while those that are exported (even to the country of origin of the original item) are done so quite openly. The launch of the “Landwind” off-road vehicle at the 2005 Frankfurt Motor Show, and its open sale in Belgium, Germany and the Netherlands is the most obvious and recent example.

**Effects of counterfeiting in the automotive sector**

**General effects**

2.73 Within the automotive sector, the producers of original items, customers and the economies of the countries concerned, experience impacts that are similar to those of other counterfeited products. That is, the producers of the originals suffer loss of markets and profits, the reputation and value of their brands and trademarks are diminished, they suffer a loss of market exclusivity and considerable efforts must be expended in the hunt for counterfeits and counterfeiters. Their employees suffer through job losses when the demand for the original products diminishes.

2.74 Also, because auto parts are generally purchased only when needed (for repair or maintenance) and are therefore not discretionary, it can be assumed that the purchase of a counterfeit part will imply the loss of a sale by the producer of a genuine or legitimate substitute part. Industry experience is that such losses can be substantial, and the estimate made by a major North American manufacturer of global losses approaching USD 1 billion per year is believable.

2.75 Consumers that are deceived by the counterfeits suffer from not receiving what they believed they pay for, and may receive products that are inferior to the originals, and which will almost certainly not be covered by warranties or guarantees. The counterfeits may also not be suited for the purpose for which they were intended, which adds to the loss of utility by consumers.

2.76 Countries where the sale of counterfeit goods is prevalent may suffer the loss of tax and other revenue, which may reflect itself in loss of government services and generally poorer economic conditions.

2.77 Countries where counterfeits are produced may experience higher employment but of a transient kind, and may find that the lack of adequate enforcement of Intellectual Property rights may be reflected directly in falling direct foreign investment. Also, some companies may choose not to do business in these countries because of their inability to deal with the complexities and costs of defending their IP rights, and as a result may direct their investment or business elsewhere.

**Automotive sector specific effects**

2.78 The distribution and sale of genuine parts for the automotive after sale market is complex and extremely well organised. While many “genuine” parts are interchangeable (in other words, one specialised manufacturer may supply different vehicle manufacturers with the same parts), many are specific to particular makes or models and may not be suitable for other vehicles.

2.79 This complexity requires a highly organised distribution system, principally through the network of dealers which specialise in specific brands and/or models. In addition, wholesale and retail automotive distribution points may also carry genuine spare parts. The entire network relies to some degree on the investments made by the manufacturers on design, technical innovation, reliability, quality control, advertising and marketing. Original parts are tested and certified by the appropriate authorities and are generally accompanied by service back-up and warranties. All of these costs are built into the price of the parts.
2.80 Counterfeited parts presented as originals (not replacement parts sold under their own brand names as suitable replacements for the originals) bypass most of these organisational, quality and regulatory complexities and financial commitments, and their only cost is to make the parts look like the originals; but not necessarily perform like them. Therefore, freed from unnecessary R&D, development and testing, marketing costs and back-up service and warranties, the parts can be placed in the market at prices that are below those of the genuine articles. Even allowing for a price discount built into the counterfeited part to make them attractive to consumers they can still be priced close to the originals; the low cost of production of the counterfeited items guaranteeing high profits for the counterfeiters.

2.81 Where counterfeited parts are offered for sale at prices that are slightly lower that the originals, the industry reports that there is a natural tendency for the price of original parts to be lowered in an effort to compete. However, this is of course a battle than cannot be won on price alone (because of the factors mentioned above), and generally achieves nothing more that further distorting the market of the original parts.

2.82 Of particular concern to the automotive manufacturers is that if the counterfeited parts are purchased in the belief that they are original, then not only will the reputation of the original manufacturer be harmed if these parts fail, but there will also be pressure from customers for warranties and service commitments to be honoured. Legal and liability obligations may also affect the original manufacturers in some cases.

2.83 The automotive sector noted that one of the responses available to them, when challenged by unchecked competition from counterfeited parts, would be for themselves to move to locations with lower cost of production, which may be in, or near, centres where counterfeiting is prevalent. By reducing their own costs of production, auto manufacturers hope to partially counter the advantages held by the counterfeiters by reducing the potential margins of profit available to them.

2.84 However, this strategy has two downsides. First, locating manufacturing plants near the centres of counterfeiting activity exposes those manufacturers to the possibility of even more counterfeiting, perhaps through production overruns by unreliable suppliers and contractors entering the “grey market”. Also, the strategy would result in additional, large scale loss of manufacturing employment in exiting production locations, particularly Europe, North America and Japan, which may be of concern to some manufacturers.

**Special safety related effects**

2.85 Beyond the effects noted above, the automotive sector has identified some specific, and very important, motor vehicle performance and safety effects resulting from the use of counterfeited parts.

2.86 Air/oil filters, spark plugs and clutch plates are among parts that could affect the performance of motor vehicles to which they are fitted. For example, poor quality spark plugs will last for a shorter time and may seriously affect engine performance, as well as perhaps increasing fuel consumption and the emission of air pollutants.

2.87 While these unwanted by-products of using fake car parts are obviously of concern to the manufacturers of original items, they are less serious than the use of fake brake pads, hydraulic hoses, engine and chassis parts, suspension and steering components and air bag mechanisms, which could seriously impair the safety of vehicles. The concern of the industry is that the inferior performance, or even outright failure, of these parts could lead to crashes or could fail to protect vehicle occupants and pedestrians, which in turn may lead to injury and loss of life.
2.88 The manufacturers of original parts are seriously concerned that counterfeited parts could go unrecognised, and that if these were linked to serious accidents then the manufactures of the original parts could be held responsible for those accidents, with potential legal and liability implications, as well as the loss of company reputations for quality and safety.

2.89 A particularly graphic example of the safety implications of counterfeiting was given by the automotive industry’s IP Working Group with respect to counterfeited bonnets for a popular European car. First, while the original bonnet was made of aluminium, the counterfeit was made of steel, which was therefore much heavier and much more rigid, and consequently more dangerous to pedestrians, that the original. Also, the counterfeit item lacked the specially engineered “fuse zone” (also known as crumple zones) which would provide protection to the occupants of the car in a serious collision by absorbing much of the energy generated in the crash.

2.90 Other material provided by the IP Working Group highlighted tests by a motor manufacturer that found, and documented, instances of brake pads that cracked and separated from their metal backing, and in some cases caught fire under heavy use. Similarly, oil filter seals failed, and spark plug electrodes melted due to the use of poor quality materials in the counterfeited parts. All of these failures could contribute to accidents, possibly causing injury and deaths.

Countermeasures taken

2.91 The automotive sector’s principal response has been to initially create an awareness of the problems associated with counterfeiting both within their own organizations (including distributors) and the general public, and wherever possible to train customs officers to recognise counterfeited parts.

2.92 The use of product verification technology (both overt and covert) has also been recognised by the industry as being helpful in combating counterfeiting in legitimate supply lines, but cost is a consideration, as is the difficulty of alerting all “legitimate” customers on how to recognise and assess the markings in order to identify possible fakes.

2.93 External investigators are widely used to detect infringements, which are then referred to the appropriate authorities in order to prevent further instances. Co-operation with customs and other law enforcement authorities, as well as actively pursuing private legal action against counterfeiters, are seen as key strategies by the automotive sector.

2.94 In addition, the automotive industry believes that widespread publicity of successful raids and court cases will heighten public awareness, and may reduce both the incidence of counterfeiting and demand for such items. Therefore, public awareness campaigns are considered to be important tools, especially because of the serious potential safety risks associate with the use of some replacement parts.

2.95 However, such actions can be time consuming and expensive; as an example, a North American respondent reported that an action involving products valued at around USD 200,000, required three lengthy court cases before it was satisfactorily resolved.

2.96 Respondents claim that their individual success rate in combating (trademark) infringements is generally high. However, caution was also expressed, as in some jurisdictions (Turkey and Italy were specifically mentioned amongst others) problems were being encountered because the legal measures to enforce trademarks were limited or inadequate, and actions taken in such jurisdictions can be lengthy and expensive.

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27 Material provided in confidence by the IP WG to the OECD.
There were also claims that ambiguities and inconsistencies in judgements involving trademark infringements were also hampering efforts to deal with those infringements. As an example, confidential material provided by a Japanese motor manufacturer indicates that it has faced a number of instances of claimed counterfeiting in China on which it has taken legal action to redress those infringements. The company has reported that judgements relating to the misuse of its logo were inconsistent, with some claims being upheld, while others, which it believed were equally similar to the original, were rejected.

In addition, the relatively light penalties that exist in many countries for trademark infringement (it is understood that in China this can be less than USD 1000) are not adequate deterrents, and consequently there are many repeat offences. For example, in China, the same manufacturer indicated that in its experience the repeat offence rate is approximately 90%, which appears to support the view frequently put by the industry that the penalties are inadequate to overcome the profitability of the counterfeiting action. Other manufactures of original parts reported similar experiences, and this type of comment was also frequently made in other sectors investigated during the course of this study.

One respondent to the OECD survey noted what when customs authorities in Lebanon started to take a hard line against counterfeited automotive components, their sales of genuine parts increased by 10%, only to slip back again when the attention of customs authorities was re-directed elsewhere. A similar experience was reported by a North American respondent, who noted that strong action against the sale of counterfeited car parts in Turkey resulted in the sale of genuine parts significantly increasing; in some cases doubling or trebling.

While there is no specific empirical evidence to link these events, there is a strong intuitive sense that there is some causal relationship between them.

An effect also noted in the automotive sector is that counterfeiters are now defending their actions much more aggressively, especially in jurisdictions where laws to protect IP are poor, ineffective or loosely enforced. This is greatly increasing the cost of IP protection for companies affected, as well as further reducing the protection available to them.

As an example, the industry noted that actions taken to defend patent infringements are particularly expensive, and that in the United States the average patent litigation case costs around USD 1 million. However, such high cost routes may be the only remedies available if counterfeiters breach patents but avoid using trademarks; which would give IP owners a less expensive enforcement route.

In the field of design infringements, despite several well publicized instances of claims by motor vehicle manufacturers of such infringements, this seems to have had little effect on the production and sale of the “copied” items. Unlike trademarks and patents, design infringements are much more difficult to establish. So far, instances of claimed design infringements involve major corporations (mostly Chinese) which openly market their vehicles in both domestic and export markets.

This may be an area where additional government and private action may be needed to clearly establish where design infringements have taken place, and some opportunities for remedial action put in place, otherwise there is a risk of Intellectual Property rights involving designs becoming ineffective, as each potential transgression that goes unchecked provides a precedent that will make others bolder, and the enforcement task more difficult.

The role of organised crime

Respondents to the OECD Survey noted that the production, distribution and sale of counterfeit auto parts is potentially very lucrative, with some suggesting that it could almost rival the drug trade for profitability. Also, the breaching of trademarks was generally considered by the public, police and
legislators alike as being far less serious than dealing in drugs, and as a consequence comparatively fewer customs, law enforcement and prosecution resources are allocated to counterfeited goods. In addition, even where prosecutions and legal challenges for counterfeiting are successful the penalties are considerably lower than other illicit activities.

2.106 These characteristics make the counterfeit trade quite appealing to organised crime, and many of the respondents noted increasing criminal activity in the sector. Virtually all of them noted that the incidence of intimidation, threats and physically violent acts perpetrated on investigators was increasing.

2.107 One major European manufacturer observed from its experience in the market that where organised criminal groups were involved in the manufacture and distribution of counterfeited auto parts these could represent up to 30% of the market for fast moving items.

2.108 There was also concern shown that the involvement of organised crime in the manufacturing and distribution chain could also lead to bribery and corruption of public officials and key personnel in the distribution network, and the Motor Equipment Manufacturers’ Association (MEMA) suggested that the infiltration of counterfeit parts into taxi, bus and limousine fleets could be attributed to this.
ATTACHMENT

Propensity to produce or consume counterfeited automotive sector

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECTS ON PROPENSITIES TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>There are balancing considerations here. On the one hand, even if counterfeiters avoid R&amp;D, promotional and warranty costs, they still need to fabricate parts and mark and package them to look like the originals. On the other hand because consumers can be relatively easily deceived, the prices of the fakes can be set closer to the original than might otherwise be the case. On balance the judgement is that the available profits would make this activity quite desirable for certain people and enterprises.</td>
</tr>
<tr>
<td>Market size</td>
<td>This is potentially very large, as it can cover the majority of the auto after-sales market. This market exists for a large variety of motor vehicles in virtually every country in the world. The widely differing sophistication of the market also allows counterfeiters plenty of scope to differentiate their products, and the growing globalisation of marques greatly increases the size of potential markets.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>The major automotive brands have traditionally been sold in various guises around the world. Brand names and trademarks have become well known and they are heavily advertised and promoted internationally. This aids counterfeiters as they have plenty of brands to choose from, and can re-route their counterfeited components to different destinations to exploit advantageous conditions.</td>
</tr>
<tr>
<td><strong>Production, Distribution and Technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production Investments</td>
<td>Auto parts need to be fabricated to at least closely resemble (and in many cases to some degree operate in the same ways as) the original parts. This requires technical skill, and fabrication capability and capacity. Generally the design and fabrication of auto parts is relatively complex and requires considerable investment, so this sector is unsuitable for small scale production as production. However, production runs tend to be large, which will tend to reduce unit cost. In addition, secret (and probably illegal) production overruns by suppliers of legitimate original components may further reduce the production costs.</td>
</tr>
<tr>
<td>Technology</td>
<td>Some technology is required in order to fabricate parts, especially those that are intended to deceive. Again, this technology is unlikely to be available to small or casual counterfeiters, and as a consequence will be limited to large scale manufacturing concern.</td>
</tr>
<tr>
<td>Logistics</td>
<td>These can be complex. Automotive components tend to be bulky and produced in large centralised facilities. This means that they have to be transported to markets and then somehow infiltrated into the legitimate supply chain (especially for deceptive parts). In many cases, as well as long transport routes the parts will cross national borders, where they may be subject to customs inspection and possible detection. The upside for counterfeiters is that auto parts are inherently innocuous, and until labelled and packaged are probably also legitimate.</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>Like most other counterfeits, automotive components can (and are) sold in open markets. However, as they are mostly specialised components the majority tend to be sold to auto repair establishments and retailers of after-market components. The infiltration into the legitimate (and grey market) supply chain to these establishments can be difficult.</td>
</tr>
<tr>
<td><strong>Ability to conceal operations</strong></td>
<td>The production of most automotive components will require substantial manufacturing capability, involving machinery and skilled operators. Such facilities would be relatively immobile, and are generally part of facilities used to produce other (frequently legitimate) manufactured and fabricated items. It would generally be difficult to conceal the operations, although as on many occasions components are labelled and packaged elsewhere (when they physically become counterfeits) then such concealment may not often be necessary.</td>
</tr>
<tr>
<td><strong>Ability to deceive</strong></td>
<td>As well as realistic packaging and markings, the likelihood of consumers being deceived into believing that auto parts are genuine is high, as end users (the motorists) do not possess the technical knowledge to detect fakes, especially if they appear to operate correctly, which they can do, even if they are inferior in quality to the original.</td>
</tr>
</tbody>
</table>

**Institutional Characteristics**

| **Risk detection** | Auto parts are generally innocuous, and therefore less likely to attract attention in their own right (and rarely need to be hidden or smuggled). However, they do have to be transported long distances, which will increase their chance of detection, especially at customs controls near their final destination. |
| **Role of the Internet** | Apart from improving communication and perhaps assisting counterfeiters to find some customers, the Internet is unlikely to be either a facilitating or an obstructing influence. |
| **Enforcement** | Most counterfeit auto parts are undetected until they hit the market, and the experience in the auto industry is that prosecution (or civil action) against producers is relatively rare. This appears to be especially so in countries of production where ineffective laws, local sympathy and lack of official resources reduce further the effectiveness of prosecution. |
| **Penalties** | The reported experience of the automotive industry is that even where prosecution is successful the penalties (available and applied) appear to be inadequate to act as genuine deterrents. |

**FOR CONSUMERS**

**EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS**

**Product Characteristics**

| **Price** | For deceptive goods a price lower than the original product would help convince the buyer that he had found a bargain. For non-deceptive items, the price would have to be substantially lower than the original to convince the consumer that, possible safety risks notwithstanding, the counterfeited items would be acceptable substitutes. |
| **Quality and nature of products** | The outward appearance of most counterfeits are close to the originals, and some are so close that even manufacturers of the original need to test them to establish that they are fakes. For the consumer, who generally does not have the technical skill to make such an assessment, if the components look the same few would be able to make a judgement on their quality. |
| **Ability to conceal status** | The status of possessing something that looks like a brand original would only sometimes be a factor in the acquisition of the component. |

**Consumer Characteristics**

| **Health concerns** | Negligible perceived risks. |
| **Safety concerns** | If products deceptive, negligible perceived risks, even if actual risks may be high. For non-deceptive components consumers may be prepared to take risks if they believe they are saving money. |
| **Personal values** | Probably not a factor, especially when consumers see counterfeits as alternatives to necessary, but expensive components. |
### Institutional Characteristics

<table>
<thead>
<tr>
<th>Risk of discovery</th>
<th>Likelihood of detection by authorities is likely to be low, as components are frequently sold in automotive repair and retail establishments. On many occasions components may be fitted without the owner’s knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosecution</td>
<td>Likelihood of prosecution is low, and those consumers who were deceived into buying the fakes would tend to be considered as victims rather than offenders.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Even if detected and prosecuted, penalties imposed on final consumers are likely to be low.</td>
</tr>
<tr>
<td>Availability and ease of acquisition</td>
<td>Except for components sold in open markets, the specialised nature of many of the components means that in general they would be sold through automotive repair establishments and retail outlets, which could limit their availability if a consumer was specifically searching for them.</td>
</tr>
</tbody>
</table>

### References

MEMA (Motor & Equipment Manufacturers’ Association) (2005) “Stop Counterfeiting of Automotive and Truck Parts”. 

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CHAPTER 3. ELECTRICAL COMPONENTS SECTOR

General description

3.1 This section of the report covers the international electrical components industry. For the purposes of the report, this industry is defined to include components that are used in the generation, transmission, distribution, or consumption of electric power. These fall under five sub sectors:

- Power distribution and transformers.
- Switchgears.
- Motors and generators.
- Industrial controls.
- Steam, gas, and hydraulic turbines and turbine generator sets.28

3.2 Some examples of these components would be relays, contacts, timers, circuit breakers, fuses and wiring accessories. Excluded are consumer electric and electronic devices, such as shavers, radios and components that are solely produced to be embedded into consumer goods, such as plasma screens, TV and radio antennas or CD and DVD drives. Batteries are also briefly covered in this report.

3.3 The electrical components sector is somewhat different from other sectors covered by this study because the items are generally not consumer goods, but are items that are sold to other manufacturers and assemblers. In turn, these items are then integrated into goods for final sale. These could encompass items ranging from generators for power plants to fuses and wiring systems for homes, appliances, etc.

3.4 Counterfeit electrical components are generally meant to deceive the purchaser into believing that they are buying an original item. However, cases in which commercial entities as well as consumers have knowingly bought fake goods were mentioned by respondents, and there is evidence that in some markets counterfeited goods are readily recognisable. Given the potential safety risks associated with the failure of sub-standard electrical components, this would seem to be quite irrational behaviour by the users, and must raise concern at the apparent success of counterfeiters to convince buyers that fake products are acceptable substitutes for the original items.

Types of infringements

3.5 Trademark infringements are the most widespread type of IPR violations faced by the producers of electrical components. In most cases, the counterfeiter independently manufactures low quality “look-alikes” and then marks them as high quality brands. These products often do not conform to certification standards, and it is a common technique to buy cheap substitute “generic” items to then re-label them and pass them off as high quality (and therefore high-priced) originals.

Source: Standard Industrial Classification (SIC).
3.6 Patent infringements occur, but do not seem to be as common as trademark violations. It is not certain whether this is because there is a low level of infringement or due to the fact that patent infringements are harder to detect. Also, patent infringements are costly to pursue, especially in countries in which IP rights are not yet sufficiently protected, and this may not only discourage some manufacturers from patenting their technologies, but may also discourage them from pursuing the less serious breaches.

3.7 Some respondents to the OECD survey noted that a large number of counterfeit products are not being marked with brand logos to avoid direct infringement of Intellectual Property rights. Instead, the counterfeiters imitate the technology and the look of the products, which are sold at close to full price with the inference that they are originals. While this practice may be of concern to companies, strictly speaking it does not represent a trademark violation, although the products may infringe patents or designs if these are registered.

Products most affected

3.8 The electrical components industry indicates that counterfeiters have focused on low cost, non-complex items such as circuit breakers, fuses, switchgears, distribution boards and wiring accessories that can be easily mass produced with relatively little input (no advanced machinery, no specialised labour force, etc.). This provides them with the opportunity to receive a high return on investment since the mark-ups on branded products include significant costs associated with marketing, certification and research and development.

3.9 Also, industry responses and customs data indicate that while the counterfeiting of large pieces of equipment is not unknown, counterfeiters tend to focus on relatively small items that can be easily transported in large quantities by truck or in containers.

3.10 Another type of counterfeiting action involves the production of electrical products that look similar to several well-known brands, and which can be labelled with different company logos without modification of the item. This increases the complexity of the supply chain for the individual brands, and makes it harder for investigators to trace back the fake items. This ploy also reduces the risk of confiscations in those countries where seizure orders have to be issued for each brand separately. Since investigators operating in these countries often only carry documentation for one brand, the remainder are frequently left untouched.

3.11 In common with other industry sectors, the electrical components industry claims that many products bearing unauthorised trademarks are not in the portfolio of the trademark holder. One respondent reported several incidents in which labelled goods unconnected with his business were intercepted. In other instances, devices in which the design belonged to one company had been copied and labelled with a trademark from a different company.

3.12 As well as the products themselves, the electrical components industry expressed concerns about the possession and unauthorised usage of printing plates, printed labels and packaging (including holograms and certification marks) for sale to factories producing the fake goods. Although the monetary value of such labels or printing plates is relatively low, their real value is in the fact that a (so far legal) “look-alike” good becomes a counterfeit when the brand logo is added without the permission of the stakeholder.
3.13 In some jurisdictions (e.g. North America) the mere possession of labels and tools bearing counterfeit and infringing marks is not against the law. However, trafficking in or engaging in commerce in labels, packages, containers and the like, bearing counterfeit or infringing marks is an infringement, and possession of such labels and tools can be evidence of trafficking or engaging in counterfeit commerce. In most jurisdictions, if trafficking is uncovered, labels and tools can be seized.

Box 3.1 Batteries- one of the world's most consumed items

Dry cell batteries (i.e. excluding wet cell batteries used for automotive, marine and aviation purposes) are widely used as energy sources for mobile phones, laptops and other electronic and mechanical devices, including some items used for medical purposes.

It appears that there are significant problems with potentially dangerous, substandard counterfeit products. It is especially for the popular AAA and D sized alkaline batteries. The National Electrical Manufacturers Association (2004) reports that a retail market sampling conducted by the battery industry in 2004 suggested annual estimated sales losses (domestic value) due to counterfeiting of USD 12 million in the US, USD 4 million in South America and USD 7 million in Europe.

US customs data show seizures of fake batteries with a domestic value of USD 2.3 m in fiscal year 2004, representing 2% of overall seizures made in that time period (US Customs and Border Protection and US Immigration and Customs Enforcement, 2006). One respondent to the OECD questionnaire noted that 34 million batteries carrying its brand name has been seized in 2004, of which over 3 million came from the US, over 15.5 million from China the remainder from the rest of the world.

The statistics for 2005 suggest an upward trend in US seizures, since over 7.3 million batteries of this particular brand were seized in the first half of 2005, while numbers for the rest of the world had declined.

The principal safety risk associated with poor quality batteries revolves around the adequacy of venting. Quality batteries of almost any type contain a vent which is designed to release internal pressure within the battery in case of a malfunction or misuse. Fake batteries often do not contain this vent. If pressure is generated inside a vent-less battery, it cannot escape, resulting in an explosion. Also, poorly constructed fake batteries are prone to leakage of electrolyte, which can occur at any time during the life of the battery.

Battery electrolytes are potentially harmful to body tissues as well as damaging to many commonly used materials and circuitry in electronic devices, and reputable battery makers take great care to design products where leakage is essentially prevented. In addition, counterfeit batteries have been found to violate environmental regulations as some contain mercury, which appears to have been intentionally added in violation of US and EU laws and regulations.

Finally counterfeit batteries are sometimes slightly larger or smaller than their genuine counterparts, which make them impossible to fit properly into devices. This has been reported especially for mobile phone and laptop batteries.

Trademark violations are the most common type of counterfeiting in the battery business, especially concerning batteries as consumer goods.

Reference:


Modes of operation

3.14 Reports on industry investigations reported by respondents to the OECD study indicated that much of the counterfeiting of electrical components is carried out by registered companies. These firms operate like normal companies, with relatively modern infrastructures and equipment, which as well as producing counterfeited items often also produce goods under their own brand name, support their own web pages, exhibit “their” products in fairs and conventions (e.g. the Canton Fair in China) and even
possess a marketing division. It has been reported that some of these companies are authorized manufacturers of genuine products and utilise surplus capacity to manufacture counterfeited products, sometimes of an inferior quality, but nevertheless equal in outward appearance to the genuine product. To an outside observer, they seem to be legal contractors of the brands they imitate.

3.15 In addition, goods are also fabricated in underground factories, where the production and storage of the counterfeited goods take place in crude facilities that can be relatively easily relocated to avoid detection. In the view of the industry, in recent years there has been a steady drift from large factories to smaller, unlicensed units, so that orders can be split into smaller consignments to reduce the risk of a complete order being seized.

3.16 As to distribution, as well as straight transport using normal transport routes (with owners expecting little risk of inspection because of the generally harmless nature of the products) respondents also noted the legal export of component subsets (to be embedded into the final product) to destination or transit countries, where they would then be assembled into the final product, labelled and then further distributed for sale. China has been especially mentioned as a major exporter of subsets, particularly to Africa.

3.17 Because the subsets in themselves are legal, customs authorities can rarely take action against them, unless there is clear proof that they will be transformed into counterfeited goods. The view of respondents was that this was a means for counterfeiters to secure their supply channels, but it does mean that final preparation of the fake items would have to be carried out in the destination country, which may provide authorities with some opportunities to apprehend them.

3.18 Once in their market, because electrical components are generally sold to intermediate manufacturers or institutional end users (rather that to private individuals as is the case in more consumer oriented products), counterfeiters generally need to devise ways of breaking into the legitimate supply chain, and this is done in a variety of ways.

3.19 One respondent noted that the most common way to sell the items is to mix genuine and counterfeited goods in a significant but limited proportion in wholesale and retail stores, since this lowers the risk of the fake goods being detected. For the counterfeiters this maximizes their profit margin since the fake goods are being sold at full price, next to genuine goods.

3.20 In other cases, the counterfeiters try to market their fake products through traditional wholesale channels for on-sale to major commercial users (i.e., manufacturers, construction firms etc) although breaking into the relatively tightly guarded controlled formal supply network might not always be easy.

3.21 The Internet also provides counterfeiters with the possibility of selling their goods in a cheap and relatively safe way. One respondent notes three types of disposal channels for counterfeited electrical components:

i) Web pages operated by exporters in source countries displaying counterfeited goods as genuine items and selling them to retailers in target markets.

ii) Web pages operated by importers in target markets selling counterfeited products to consumers in these markets over the internet.

iii) Bidding sites in which anonymity allows counterfeiters to sell their products with relatively low risk.
3.22 The advantages of using the Internet, even though yields to the counterfeiter might be lower, are obvious. There is no paperwork proving the origin of the goods, except the address on the Internet page. For properly documented small consignments the chances of inspection by customs are small, and direct shipment to the buyers provides an easy way of transportation. The transactions are carried out across jurisdictions which complicates legal and remedial action even if the counterfeits are detected.

Factors that drive production and consumption of counterfeited electrical components

3.23 This section examines various factors that drive the production and consumption of counterfeited electrical components. Each product sector has its own peculiar characteristics that will in part determine and shape those drivers, and the recognition and understanding of these drivers can provide insights on the propensity for that category of goods to be produced. In turn this may provide some guidance on the likelihood that such products can be found in the market place and may support statistical data collected through customs interdictions, police raids on production and retail facilities, the results of legal action and other market based data. Moreover, the propensities could provide important insights into how surveys and economic modelling could best be used to improve measurement.

3.24 In the summary table below (Table 3.1), the drivers that are considered to apply in the electrical components sector have been compiled on whether, and to what extent, they are favourable or unfavourable for the production and consumption of these counterfeited goods.

3.25 A more detailed explanation of the derivation of these propensity factors can be found in the Attachment to this sector analysis.

Table 3.1 Propensity to produce or consume counterfeited electrical components

(See Attachment for more details)

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECT ON PROPENSITIES TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Characteristics</td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>Relatively high.</td>
</tr>
<tr>
<td>Market size</td>
<td>Large, but not mass market. Goods are widely used but they are not consumer goods.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>Not a major factor in this sector, although well known brand names could be counterfeited to attract a price premium.</td>
</tr>
<tr>
<td>Production, Distribution and Technology</td>
<td></td>
</tr>
<tr>
<td>Production Investment</td>
<td>Low; most influential factor is appearance; thus, only investments in packaging and outward look.</td>
</tr>
<tr>
<td>Technology</td>
<td>No high level technology required, thus little investments needed.</td>
</tr>
<tr>
<td>Logistics</td>
<td>Transport can be difficult, but techniques available to minimise risks during transportation and distribution.</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>As items that are basically used as components in end products, these items need to be infiltrated into established distribution chains, which could be difficult.</td>
</tr>
<tr>
<td>Ability to conceal operations</td>
<td>There could be some problems for producers.</td>
</tr>
<tr>
<td>Ability to deceive</td>
<td>Easy to deceive consumers.</td>
</tr>
<tr>
<td>Institutional Characteristics</td>
<td></td>
</tr>
<tr>
<td>Risk of discovery</td>
<td>Relatively high and rising due to industry efforts.</td>
</tr>
</tbody>
</table>
Enforcement | Generally low; official resources dedicated to this type of product are low.
---|---
Penalties | Generally low, although theoretically penalties are high in China, the USA and the EU. Practically, penalties are mostly limited to seizure and fine.
FOR CONSUMERS | EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS
Product Characteristics |  
Price | Low prices can attract consumers, even if they have doubts about provenance of components.
Quality and nature of products | Specialised components where the quality and performance are not obvious to non-technical persons.
Ability to conceal status | Status not an issue in this sector, but ability to convince others that components meet technical standards would make them attractive to consumers.
Consumer Characteristics |  
Health concerns | For this sector these are covered under “Safety”.
Safety concerns | Relatively high; substantial danger from fake goods due to poor manufacture or low quality materials. However, price may overcome these concerns.
Personal Values | The potential safety implications of using counterfeited components should be a factor for consumers, but no indication of whether or not this is the case in practice.
Institutional Characteristics |  
Risk of discovery | Very low; anti-counterfeiting measures concentrate primarily on suppliers rather than purchasers.
Risk of prosecution | Very low; deceptive appearance of the items would generally lead to the purchaser being considered as a victim.
Penalties | Very low.
Availability and ease of acquisition | Restricted, as components are generally distributed through normal distribution outlets.

3.26 The characteristics of the electrical equipment industry suggest that even though there are some problems for the counterfeiters, this would still be a relatively attractive market for them. On the producer side, counterfeiting seems to be attractive as the market is large and profit margins are also relatively high. On the other hand, the risk of detection and difficulties in penetrating established distribution chains are limiting factors. On the purchaser side, the market for “non-deceptive” counterfeits is seen as low, given the high safety risks and the risk of purchasing low quality items, although it reportedly still occurs. The majority of purchases of fake items would be as a result of the buyer being deceived as to the true nature of the goods.

Magnitude and scope of infringements, and trends

3.27 Information provided by industry suggests that counterfeiting is a substantial problem in the electrical components sector. The respondents to the OECD survey have suggested a steady growth in both the quantity and geographical scope of counterfeiting. A critical area over the past three to five years has been Africa, where industry believes an estimated 25% - 75% of the mass produced electrical components market has been captured by counterfeited goods.

3.28 Zones with existing problems, where counterfeited goods are capturing increasing market shares are Asia (especially China, where 10% - 40% of the market is believed to be composed of counterfeits), the Middle East (20% - 40% counterfeit) and Eastern Europe (10% - 40% counterfeit). The UK, India, Ireland, Italy, Spain and Portugal have also been mentioned as being subject to a significant and increasing
presence of trademark or patent violations. Australia, France, Germany, the Netherlands and the Nordic countries are reported to not be substantially affected by counterfeiting.

3.29 Of particular note is the increasing tendency towards counterfeiting in South America, where links with organised crime have been mentioned, along with linkages between counterfeiting groups and the drug trade. One respondent noted that in many cases there has been a marked shift from the very risky trade involving drugs to the trading of counterfeited goods, including electrical components, which presents significantly lower risks to organised criminals. This perception is consistent with similar reports from other industry sectors.

3.30 As far as source countries are concerned, China is reported to be the leading supplier of counterfeited goods in the electrical components sector. Although counterfeiting is taking place in the entire country, Guangzhou and Wenzhou have been mentioned as principal production areas. Guangzhou is the largest and fastest growing industrial and foreign trade centre in southern China, and every spring and autumn hosts the China Export Commodities Fair (also known as the Canton Fair), which is the largest exhibition of this kind in the world. The electrical components industry regularly examines this Fair for exhibitors that show counterfeited items, and they report numerous violations of IP rights on every occasion.

3.31 Respondents also noted that products manufactured in China are typically either shipped or transported by air directly to “importers” in different countries, which then sell the products through local distributors. The second channel includes the usage of a transit point. This gives the counterfeiters the possibility of concealing distribution channels by simply changing delivery companies or splitting the load into smaller parts, to be then shipped to different countries using different delivery services and modes of transportation. Such transit points are the Middle East (Kuwait and Saudi Arabia have been mentioned most frequently) and a few African (Kenya, Tanzania, Uganda) and European (Italy, UK, Ireland, Malta, Poland) countries.

Effects of counterfeiting in the electrical components sector

3.32 Since electrical components are not generally consumer goods, the immediate effects of counterfeit products are likely to fall on the manufacturer of the genuine product and the firms that buy components and integrate them into products for sale. Subsequently, consumers are likely to be affected if goods containing the counterfeit components fail (for example an electrical switch used in a house construction that starts a fire).

3.33 For producers of the original items, the effects are two-fold: sales losses and pressure on prices. As to sales losses, if the counterfeited electronic components are meant to deceive the purchaser (which is most often the case), it can be assumed that every counterfeited item bought is a lost sale for the producer of the original item, since the purchaser has bought an item assuming it to be genuine. However, as has already been mentioned, in some countries purchasers seem to knowingly buy counterfeited items. In this case, it is uncertain, whether the purchasers would have bought the genuine item if the counterfeit product had not been available, or whether they may have opted for a different product. Nevertheless, to different extents both cases represent lost sales. Lost sales worldwide are estimated by the European Electrical Installation industry to have ranged between EUR 2 and 4 billion in 2005 (based on retail value).

3.34 With respect to the pressure on prices, the calculation of the final price of a product includes a substantial component for design, quality management, ensuring that the product conforms to certification standards as well as investment in research and development and marketing. Counterfeiters do not have such commitments, and they often use low quality materials as well as very cheap labour parts for the fabrication of the products. Also, the avoidance of taxes can increase the profit margin. Therefore, the
imitation of a well known, genuine quality product can be sold much more cheaply (30% - 50% has been mentioned by one of the respondents) while still yielding the counterfeiter a good profit margin.

3.35 For the intermediate and final consumers, financial losses are incurred when the fake component causes a defect of the product in which it is embedded. This will then lead to costs for the consumer as well as the producer of the device if it is under guarantee. In addition, intermediate consumers can experience damage to their brand names, and this was one of the most often mentioned negative effects. Of particular concern to the manufacturers of end products for retail sale, was that consumers would not (indeed could not) be aware that a faulty component had been used by the manufacturer in the belief that it was an original component, and inevitably it is the manufacturer’s brand name reputation that pays the price.

3.36 Safety is also a potential major issue associated with the widespread use of counterfeited electrical components. Many fake electrical items are of low quality and may not perform satisfactorily, and in some cases they could malfunction in ways that could cause injury, or death. A circuit breaker, for example, is intended to stop the flow of electric current in a suddenly overloaded or otherwise abnormally stressed electric circuit, and its performance is dependent on the calibration made during the manufacturing process and the quality of the material of its components. Counterfeited circuit breakers have been found to be incorrectly calibrated, and/or constructed using low quality materials, which could result in a malfunction. Incidents involving below quality components, especially those used in the belief that they were original items, could result in heightened risk of electrocution or fires.

**Countermeasures taken**

*Industry co-operation*

3.37 In the electrical components sector, actions have mostly been taken by industry associations, such as the French Association of Electrical Installation Manufacturers (DOMERGIE) (n.d.), the National Electrical Manufacturers Association (NEMA) and the British Electrotechnical and Allied Manufacturers’ Association (BEAMA) (BEAMA, n.d.). An extensive internal reporting policy (including an intranet database) between the members of the associations and within the associations themselves has been established to monitor developments in counterfeiting. One of the aims of this initiative is to also address the problem that counterfeiting is perceived as a crime that can not be combated efficiently, and therefore the investments made to support anti-counterfeiting efforts and actions are wasted.

3.38 The associations also function as lobbying entities to influence and advise governments and to establish and strengthen contacts with other bodies, such as customs and certification authorities, anti-piracy organisations, trade fair organisers and wholesaler associations.

*Training and public awareness*

3.39 Increased educational efforts have also been mentioned as a major issue. These include courses for customs officials to improve their ability to identify fake electrical components, public campaigns against counterfeiting and advertising actions during trade fairs to warn exhibitors showing counterfeited goods. Respondents have noted positive effects resulting from these actions, especially those involving custom officials.

3.40 One respondent noted a positive outcome from using the media as a means of increasing public awareness and educating people about the negative effects of counterfeiting. It seems that counterfeiting is no longer an ignored topic, but is widely addressed by public comment as well as detailed, analytical case studies. However, according to the industry, here too it appears that media interest in the electrical components sector is being eclipsed by the more high profile sectors, such as pharmaceuticals, car and aircraft parts and tobacco products.
Technology

3.41 Another measure against counterfeiting is the adoption of technical methods for product identification, as well as special packaging. An example of a current system is that employed by the members of the French DOMERGIE group. NOTACOPY, an authentication system based on secret and unique numbering of each legally produced item, enables the purchaser of a good to immediately verify whether or not the item is registered as a genuine product. The verification is free of charge and accessible through the Internet. The purchaser of the item also has the opportunity to enter his/her address and the address of the retailer. The information collected through this system allows producing companies to identify the region where fake goods have been detected, and can indicate the level of counterfeiting in different regions throughout the world (SARL Notacopy.com, n.d.).

Facility relocation

3.42 A more strategic approach mentioned by the industry is the relocation of production facilities close to recognised counterfeit hotspots. The argument for this is that not only are the costs of production reduced, since manufacturing of fakes usually takes place in low cost countries, but that the presence of stakeholders in these regions may also disrupt counterfeiting activities, due to the increased risk of the counterfeiter being detected.

3.43 However, this strategy may also cause an opposite effect. Some contracted suppliers of well known members of the electrical components industry have been reportedly selling production over-runs in the “grey market”, and possibly violating patent and/or trademark rights by selling original items marked with their own brand. One respondent mentioned that some of the formerly contracted companies have now become official producers themselves, producing the same items they used to produce for genuine manufacturers, yet marked with their own brands. These companies even invest in R&D and intellectual rights protection to secure their own goods from being counterfeited.

Marketing strategies

3.44 Another method used by genuine manufacturers in order to make the counterfeiting of their products more difficult, is to frequently change their product designs. However, the effects of such changes are time-limited, because as soon as the newly introduced design becomes known, counterfeiting will reappear. In addition, this strategy has no effect for the low end market segment where basic functionalities and low pricing are the critical factors.

Enforcement actions

3.45 Eventually, field actions organised by associations as well as single industry members are the tools principally used against counterfeiters. For this industry sector, the advantages are; relatively low costs (about USD 210 000 for a six month operation have been reported), relatively efficient, discrete treatment of the counterfeiting problem and no long-term commitment to actions in specific regions, since investigation teams are mobile.

3.46 Also, the lack of effective IP rights protection in some producing economies, and the large number of repeat offenders, have led brand owners to the conclusion that the best way of combating counterfeiters is to continually raid and seize as many products as possible, which would hurt the infringers financially. These actions are undertaken on a case by case basis, in co-operation with government enforcement agencies, to encourage the use of criminal instead of the generally less effective civil action.

3.47 An example of successful anti-counterfeiting initiatives indicating the dimension of counterfeiting and piracy in this industry is the recently launched coalition of several electric manufacturer
associations including the French DOMERGIE and the British BEAMA. A number of anti-counterfeiting operations in China, Africa and the Middle East have been carried out within the framework of this initiative. The number of items confiscated by private investigators in co-operation with law enforcement agencies exceeded 10 million products between 2001 and 2005 (over 150 factories raided), including one four month operation in China, in which 220,000 switchgears, 125,000 power sockets, 1,900 circuit breakers and 260,000 wiring accessories were seized.

Co-operation with governments

3.48 As far as governments are concerned, the opinions of respondents to the OECD survey differ as to the level of help they can expect from government authorities in actions against counterfeits in the electrical components sector. One concern expressed by industry was the perceived lack of co-operation between governments and enforcement agencies to address the problems associated with trans-border counterfeiting activities.

3.49 The EC was given special mention for its support of anti-counterfeiting programmes, but the sense in this industry sector remains that other products, like pharmaceuticals, are more likely to receive priority. The United States was also reported as having been helpful in targeting electrical products for surveillance and prosecution, and was also considered by the industry respondents as also having taken some useful initiatives against counterfeiting in general.

3.50 Respondents also noted greater awareness and engagement by China and the Middle East countries in enforcing anti-counterfeiting measures, but as yet the level of IP protection is still considered by the industry to be insufficient in those locations. The experience in South and Central America has also been that government agencies have proven to be helpful when cases are brought to them. On the other hand various African countries were named as being very hard places in which to enforce IP rights, due to partly insufficient IP laws and a lack of awareness by local governments.

3.51 As a general observation, respondents in this industry sector have noted that developing countries are likely to take action and provide assistance if the stakeholder delivers information and proof on counterfeiting activities. However, the lack of public awareness, poorly educated customs and enforcement officials as well as the perceived low risk of counterfeiting when compared to other illegal activities, hinder the successful combating of counterfeiting in this sector.

3.52 Also one respondent noted that the time and expense of criminal enforcement can be a deterrent to some governments and their agencies.
Propensity to produce or consume counterfeited electrical components

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECT ON PROPENSITY TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>The industry claims that fake goods are being sold about 30% - 50% cheaper than their genuine counterparts if counterfeiters do not intend to deceive the purchaser. This implies that the profit margin is high, giving counterfeiters considerable latitude in pricing their products. Where the products are deceptive, then profit margins can be even higher. Even when the costs for packaging and labelling are comparable to genuine products, the differences in production costs are due to the low quality of the technical parts used, as well as the lack of R&amp;D, certification and marketing.</td>
</tr>
<tr>
<td>Market size</td>
<td>Electrical components are widely used, since they are components in the manufacture of consumer electronics and other, specialized electronic devices, as well as in the construction industry. However, they are not generally considered as consumer goods.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>While there are some very well known brand names in electrical components, these are not consumer items, and brands have less attraction here than in other sectors. The exception might be when a brand name is also known to meet necessary specifications and standards, which would increase the market value of the counterfeits.</td>
</tr>
<tr>
<td><strong>Production, Distribution and Technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production investment</td>
<td>Electrical components do not require a high investment, as counterfeiters concentrate on producing simple devices, where the most important factor is the appearance and labelling. Production most often takes place in underground factories and does not require expensive machinery or skilled labour.</td>
</tr>
<tr>
<td>Technology</td>
<td>Generally no sophisticated technology is required for the production of most counterfeited electrical components. Some technology may be required for production of some of the more sophisticated components.</td>
</tr>
<tr>
<td>Logistics</td>
<td>The established transport and distribution channels can be risky (from a detection perspective) whenever they cross national borders, and because the items are shipped in large numbers they can also be bulky. However, the traditional channels remain the preferred choice for most counterfeiters, who rely on the relatively innocuous nature of the products to escape close examination.</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>As items that are basically used as components in end products, these items need to be infiltrated into established distribution chains, which could be difficult.</td>
</tr>
<tr>
<td>Ability to conceal operations</td>
<td>Some fabrication and production facilities needed, which could be difficult to conceal. However, machinery could be used for other purposes to disguise counterfeiting activities.</td>
</tr>
<tr>
<td>Ability to deceive</td>
<td>As it is impossible to detect low quality items in electrical equipment without technical examination, the appearance of the item, the label and certification mark as well as the packaging are the principal factors of deception. As stated by respondents, the production of these do not pose any problems to counterfeiters. The only variable to then indicate a good as being counterfeited is the price, which can also be controlled.</td>
</tr>
<tr>
<td><strong>Institutional Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Risk of discovery</td>
<td>The risk of detection is considered by the industry to be relatively high, principally because of their efforts in combating counterfeiting. The industry noted</td>
</tr>
</tbody>
</table>
improvements in reduced counterfeiting of some brands in some countries. However, some respondents considered government anti-counterfeiting measures to be insufficient (or in some cases non-existent), especially in developing countries. This facilitated the work of counterfeiters.

<table>
<thead>
<tr>
<th>Enforcement</th>
<th>It appears that the risk of prosecution (as opposed to the imposition of fines and the seizure of goods) is very low, especially in developing countries. Therefore, this is not a major barrier for counterfeiters.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penalties</td>
<td>Legal action under criminal law in China, the USA and the EU could (in theory) result in substantial penalties due to safety risks associated with potentially defective fakes. However, in practice counterfeiters seem to face only minor penalties if sentenced. Even the seizure of plant and equipment and stock would result in high, yet not crucial costs for the counterfeiter.</td>
</tr>
<tr>
<td>FOR CONSUMERS</td>
<td>EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS</td>
</tr>
<tr>
<td>Price</td>
<td>This point contains two aspects. On the one hand, purchasers are deceived by almost perfect imitations, and would buy the items believing them to be the original items. In these instances, none of the other drivers would have any relevance. On the other hand, some characteristics of the electrical components (such as where they are sold, or unexpectedly low prices) may suggest that the good is counterfeited. In these instances, the purchasers would have made some judgements about the utility of the items, including the importance of the price, and the possible belief that they would be “good enough” for their purposes.</td>
</tr>
<tr>
<td>Quality and nature of products</td>
<td>Items are used in construction and as components in the manufacture of other goods. Industry experience is that generally they appear visually similar to the originals but are fabricated from lower quality materials.</td>
</tr>
<tr>
<td>Ability to conceal status</td>
<td>The image of counterfeiting of these kinds of goods would not influence the decision to purchase the item.</td>
</tr>
<tr>
<td>Consumer Characteristics</td>
<td>Health concerns Health risks are not factors in this sector. Safety concerns Safety risks associated with fake items should be a very strong negative factor, but the lack of understanding of those risks, or the belief that the items would perform acceptably, or the attractiveness of the prices, or a combination of all of these, may diminish the weight that buyers give to this important element. Personal values The potential safety implications of using counterfeited components should be a factor for consumers, but no indication of whether or not this is the case in practice.</td>
</tr>
<tr>
<td>Institutional Characteristics</td>
<td>Risk of discovery The likelihood of detection is low since governments and the electrical components industry concentrate on suppliers rather than purchasers. Risk of prosecution The likelihood of being prosecuted is very low, since the generally deceptive appearance would probably act to turn the purchaser into a victim. Penalties The penalties on purchasers, even if prosecuted or facing private legal action, are likely to be low. Availability and ease of acquisition As many components are specialised, and intended to be used in the construction industry, or in the manufacture of end products (such as generators), they are generally distributed through normal supply chains, which could be difficult for counterfeiters. This may act to limit the extent of their availability to consumers.</td>
</tr>
</tbody>
</table>
References


CHAPTER 4. FOOD AND DRINK SECTORS

General description

4.1 This sectoral analysis focuses on IPR infringements affecting alimentary products (food and drink). It should be noted that the broader interpretation of “counterfeiting” that seems to be commonly used in these sectors would include “fake” products that are misrepresented (e.g. a bottle containing some kind of alcohol which is sold, without infringing a trademark, as a bottle of vodka). However, while important from a public policy perspective, such products are beyond the scope of this project, which limits itself to instances of counterfeiting which infringe Intellectual Property (IP) rights.

4.2 Also, Geographic Indicators, including controlled denomination schemes (such as the Denominazione di Origine Controllata - DOC in Italy, and the Appellation d’Origine Contrôlée – AOC in France) are not covered in this analysis, as these will be examined separately in a subsequent phase of this study.

4.3 It is also noted that the food and drink sector is somewhat sensitive, because of the possibility of contamination and/or the use of poor quality ingredients in products intended for human consumption. Apart from the major concern about possible health problems associated with such products, there is also understandable concern by the producers of the genuine items that their brand names could be tainted if associated with public health problems, even if these were not of their making.

4.4 Because of the possibility of potential consumer backlash, food and drink producers are understandably very cautious about widespread public discussions of counterfeiting that could involve their own brands. Because of this potential problem, the discussion in this sectoral analysis avoids the naming of specific firms or brand names.

Types of infringements

4.5 The majority of IPR infringements in the food/drink industry involve the misappropriation of trade marks or registered designs, especially for types of foodstuffs or drinks where the original product can be easily replaced by a substitute, and where it is difficult to establish by physical observation that it is not the original. Kiwi fruits and baby formulae are examples of foods, and tea and Scotch whisky are examples of drinks that have been found to have been substituted in this way.

4.6 According to the industry, the incidence of infringement is considerably lower when physical counterfeiting is necessary to misrepresent the product (as opposed to simply copying the packaging, labelling, trademark and the general appearance of items being substituted) as this requires a considerably more sophisticated enterprise to successfully carry out the substitution and convince retailers and the buying public that they are original items. For example, the counterfeiting of frozen or canned food is much more difficult as this would require specialised equipment to produce the substitute items, as well as to store and transport them, and this severely reduces the potential incentive for counterfeiting.

4.7 Because of the importance of the appearance of the counterfeited item (in order to deceive the buyer into thinking that it is the original item), as well as trademark infringements it can also be expected
that there will be infringements of designs that have been registered to protect the special appearance and/or the packaging of particular products.

4.8 Finally, conceptually it is likely that some processes and formulas for the preparation of food and drink items may be covered by patents, and that these patents may be breached when items are counterfeited. However, this was not a problem specifically mentioned by any of the respondents to the OECD survey. In fact, a number of them noted their unwillingness to seek patents for their processes and recipes, as these would then place them in the public domain. Rather, they expressed a preference to treat these as “trade secrets”, protected through close monitoring of those processes and recipes, and the extensive use of confidentiality and non-disclosure agreements.

**Products most likely to be affected**

4.9 In the experience of the industry, the products that are most subject to counterfeit action are those that are the simplest to replace with passable substitutes, and which would not be readily detected by the consumer (and sometimes the wholesalers and retailers). Tea, rice and vodka were examples of such items provided by respondents to the OECD survey.

4.10 In these instances the food or drink item could be easily substituted with cheaper (and probably inferior) products, with maximum effort going into reproducing the packaging so that it is practically indistinguishable from the real thing. Virtually all respondents noted the increasing sophistication of counterfeiters in reproducing packaging that is virtually indistinguishable from the original; including the copying of anti-counterfeit security devices, such as holograms and tax labels.

4.11 In this respect the experience of the food and drink sector mirrors that of other sectors, where the proliferation and falling cost of equipment, especially computers and associated peripherals, has made the task of the counterfeiters considerably easier.

4.12 Several respondents noted that counterfeiting and infringements of trademarks in food are relatively low compared to other products, due to generally low profit margins and the significant logistical challenges associated with the production, handling, transport and distribution of food products. These characteristics would be further magnified for perishable products which require even more sophisticated handling, and distribution chains capable of handling these products efficiently.

4.13 This apparent perception in the industry of relatively low propensity to counterfeit in this sector was to some extent supported by the survey of customs authorities undertaken by the OECD in parallel with the industry and government surveys on counterfeiting and piracy. In the responses by those customs authorities, food and drink products were rarely separately identified, and when they were the quantities/values involved were comparatively small. One inference that could be drawn from this (but with some caution as there are confusing signals) is that food and drink products are something of a difficult target for counterfeiters, and that their efforts are more likely to be directed towards other easier, and perhaps more profitable, targets.

4.14 However, while this may be true for food which requires elaborate processing or transformation, there are many food and drink products that could be copied (or at least substituted) with little organisational effort and small investments on the part of the counterfeiters. Example of this could be the substitution of cheap bulk tea for prime quality leaf tea, or the substitution of baby formula with a powder that is made to look like the original but with few active ingredients. In these cases, the quality of the packaging would be sufficient to attract a buyer, and in many cases those buyers might not even realise that they had purchased a counterfeit in place of the original item (but might be discouraged from buying that brand again).
4.15 Alcohol products are prime targets for counterfeiters in the drinks sector, both because of their brand value (and the price premium that they attract) and the high tax and excise component of the final price, both of which add to the prices that can be charged by counterfeiters. Alcohol was one of the more frequently mentioned food/drink products in the survey of customs authorities, and respondents to the OECD industry survey noted that the most common infringement was the refilling of original bottles with inferior substitutes. Categories of alcohol commonly used in mixed drinks are also particularly attractive as the mixer can mask the distinctive taste of the underlying alcoholic base.

4.16 While many of these substitutions use original bottles and are carried out as small scale cottage industries, according to the industry there is increasing evidence of large scale operations that include the use of semi-automated bottling lines as well as sophisticated printing machines. The investment in such operations could also include bottle moulds, production of packaging and the production of raw spirit. Respondents to the survey also indicated that the production of fake products at this scale - sometimes international in nature - would almost certainly involve organised crime.

Production and distribution

4.17 By and large, food and drink products are bulky, often perishable and difficult to transport. Therefore, counterfeits are more likely to be produced for local consumption rather than counterfeiters going to the trouble and expense of transporting them to export markets.

4.18 This point of local production of counterfeited items was emphasised in a number of responses to the OECD survey, with the most specific comment coming from a major international producer of spirits, which noted that distribution and sale of counterfeit brands were largely localised operations, with counterfeiters selling directly to liquor outlets, bars etc, and with little international distribution.

4.19 One of the principal characteristics of local production, distribution and consumption is that it avoids crossing national borders, where counterfeiters could expect greater vigilance from customs authorities, especially when products such as spirits, with high excise potential, are involved. This in turn not only reduces the risk of discovery, but also when discovery does occur the quantities are far smaller than when container loads of counterfeited goods are moved around the world. This generates less pressure for prosecution, and penalties may be smaller.

4.20 The other effect of relatively small local production is that this will be carried out in many more locations than when counterfeiting is undertaken in large production runs to feed international markets. For example, an international producer of spirits listed some 30 economies (both developed and developing) where legal seizures were made over the past few years, and noted that it needed to maintain a sophisticated global counterfeit recognition programme in over 150 countries and territories in order to deal with counterfeit products.

4.21 On the other hand, the European Brands Association (AIM) reported that figures from Customs seizures of food and drink products showed substantial increases over recent years (about 250% increase in the number of articles between 2003 and 2005), indicating that trans-border distribution of these products still exists, and should not be ignored (AIM, 2005, EC Taxud, 2003 to 2005).

4.22 As with virtually every other sector, China was frequently mentioned by respondents as the source of manufacturing, distribution and sale of counterfeited food and drink products, but in this instance it is not the sole or dominant producer, further highlighting the largely domestic focus of this group of products.
Factors that drive counterfeiting production and consumption

4.23 This section examines various factors that drive the production and consumption of counterfeited food and drink products. Each product sector has its own peculiar characteristics that will in part determine and shape those drivers, and the recognition and understanding of these drivers can provide insights into the propensity for that category of goods to be produced. In turn this may provide some guidance on the likelihood that such products can be found in the market place and may support statistical data collected through customs interdictions, police raids on production and retail facilities, the results of legal action and other market based data. Moreover, the propensities could provide important insights into how surveys and economic modelling could best be used to improve measurement.

4.24 In the summary table below (Table 4.1), the drivers that are considered to apply in the food and drink sector have been judged (on the basis of available information, analysis, industry experience and qualitative judgement) on whether, and to what extent, they are favourable or unfavourable for the production and consumption of counterfeited goods.

4.25 A detailed explanation of the derivation of these propensity factors can be found in the Attachment to this section.

Table 4.1 Propensity to produce or consume counterfeited food and drink goods
(See Attachment for more detailed explanation)

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECT ON PROPENSITIES TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>Generally low, may only attract specialised producers. Production costs can be high for perishable products which may further limit profit potential.</td>
</tr>
<tr>
<td>Market size</td>
<td>Global mass market available.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>Many brands in the food/drink sector have global reach.</td>
</tr>
<tr>
<td><strong>Production, Distribution and Technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production investment</td>
<td>Low investment to produce may offset low profit margins.</td>
</tr>
<tr>
<td>Technology</td>
<td>Technology not a barrier.</td>
</tr>
<tr>
<td>Logistics</td>
<td>Logistics are problematic and would require considerable effort.</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>Generally deceptive food and drink items need to be sold through normal commercial outlets, which could be difficult in many cases.</td>
</tr>
<tr>
<td>Ability to conceal operations</td>
<td>Depends on items, some require considerable equipment, others can be carried out in small, mobile production units.</td>
</tr>
<tr>
<td>Ability to deceive</td>
<td>Relatively easy to deceive consumers, which will encourage production.</td>
</tr>
<tr>
<td><strong>Institutional Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Risk of discovery</td>
<td>Not perceived as a major problem.</td>
</tr>
<tr>
<td>Enforcement</td>
<td>If discovered, risk of prosecution may be high as health risks are involved. This may deter some potential counterfeiters.</td>
</tr>
<tr>
<td>Penalties</td>
<td>May be high - could include heavy fines and imprisonment.</td>
</tr>
</tbody>
</table>
### Product Characteristics

<table>
<thead>
<tr>
<th>Product Characteristics</th>
<th>Effect on Propensities to Consumers Non-Deceptive Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>Lower prices may encourage consumers to treat counterfeited products as substitutes, despite health risks.</td>
</tr>
<tr>
<td>Quality and nature of products</td>
<td>Reportedly, appearance of counterfeited products very close to originals. Consumers may not be able to differentiate any differences in taste.</td>
</tr>
<tr>
<td>Ability to conceal status</td>
<td>Unlikely that image of products would be a major factor in this sector.</td>
</tr>
</tbody>
</table>

### Consumer Characteristics

<table>
<thead>
<tr>
<th>Consumer Characteristics</th>
<th>Effect on Propensities to Consumers Non-Deceptive Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health concerns</td>
<td>Could be high and would normally be expected to discourage consumption.</td>
</tr>
<tr>
<td>Safety concerns</td>
<td>No apparent safety issues.</td>
</tr>
<tr>
<td>Personal values</td>
<td>Unlikely to be a major factor.</td>
</tr>
</tbody>
</table>

### Institutional Characteristics

<table>
<thead>
<tr>
<th>Institutional Characteristics</th>
<th>Effect on Propensities to Consumers Non-Deceptive Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of discovery</td>
<td>Consumers would rarely be the target of official action.</td>
</tr>
<tr>
<td>Risk of Prosecution</td>
<td>Risk likely to be low, likely to be seen as victims.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Unlikely penalties would be applied.</td>
</tr>
<tr>
<td>Availability and ease of acquisition</td>
<td>As food-drink items are generally distributed through normal supply chains, consumers may not always find (or realise that they have) counterfeited items.</td>
</tr>
</tbody>
</table>

4.26 The interpretation of these propensity factors needs some caution, as not all drivers will carry the same weight in the decision-making process. As a simple example, the difficulties with the transport and distribution of counterfeited food and drink products, and the potentially low profit margins may be overwhelmed by the sheer size and diversity of the potential market, and the ease with which consumers can be deceived when faced by recognisable brands and familiar packaging.

4.27 From the appraisal of drivers in Table 1 it is suggested that the relative ease of deception, as well as the size of the market for well-known brand products, provide strong incentives for the counterfeiting of those goods. However, the generally low profit margins, the challenges associated with transporting and distributing products and the potentially serious consequences of prosecution are also limiting factors.

4.28 On the consumer side, the relative ease with which misleading packaging can be produced means that few will detect counterfeits before purchase or consumption, and therefore the drivers that could deter consumers (especially health concerns) would rarely apply. In instances when counterfeits are detected, consumers (especially those with less disposable income) might be tempted to take a risk on the possible health problems associated with counterfeited products, if these are priced well below the genuine items.

4.29 Overall, the drivers for the food and drink sector would suggest that this would be a sector subject to some counterfeiting activities, with manufacturing likely to be located locally because of the difficulties in transporting many of the products. To some degree this would tend to support the view in the industry (as evident in responses to the OECD questionnaire) that the food and beverage area is one of the more difficult sectors for counterfeiters to operate in.

### Magnitude and Scope

4.30 Unfortunately, the survey has shed very little light on the actual magnitude and scope of counterfeiting in the food and drink sector. Part of the reason for this is that there seems to be genuine and widespread misunderstanding in this sector of what is actually covered by counterfeiting.
4.31 Many respondents seem to hold the view that apart from actual cases of fake products sold as being original, anything which might be construed as hinting that the product was of a generic origin could be considered as being counterfeited. Therefore, a respondent claimed that the use of names that evoked images of a particular country, or the use of a flag or other distinguishing symbol, was sufficient to justify the conclusion that this was counterfeiting. One group even coined a name for this; “Italian Sounding” to cover instances where words were used to evoke a similarity to things Italian, even though the words themselves were often not actually Italian. A similar case could no doubt be made for words that sound French, Spanish or any other language.

4.32 It is highlighted that, in the context of this study, counterfeiting means the deliberate misleading of customers through the infringement of IP rights, such as trademarks, registered designs and patents.

4.33 Such a broad view of what constitutes counterfeiting rapidly escalates the claimed losses suffered by the producers of the original items. For example, the Federazione Italiana dell’Industria Alimentare (FEDERALIMNETARE) estimated in a 2003 study that while in 2002 legitimate exports of Italian food products in 2002 totalled EUR 13.9 billion, there were also EUR 2.6 billion in sales of “illegal” imitations (FEDERALIMENTARE 2003).

4.34 While large, this number was dwarfed by the report’s estimated sales in the same year of “Italian Sounding” (and therefore not necessarily illegal) products, which totalled a massive EUR 52.6 billion. Clearly, such numbers need to be handled with care in order to avoid grossly overstating the losses incurred by industry, but at the same time can give some indication of the problems being faced by legitimate producers in dealing with imitations of all kinds.

4.35 With respect to the drinks industry, the European Brands Association (AIM) reported that during 2004 the spirit industry’s global anti-counterfeiting actions resulted in the seizure of over 1 million counterfeit items, and the closure of 148 counterfeit manufacturing sites. The industry’s evaluation of these manufacturing sites was that over a 12 month period their cumulative production capability was 155 000 cases with a potential full revenue value of around EUR 19 million.

4.36 A startling report published in the Food & Drink Europe web site29, claimed that some 40% all alcoholic beverages, and 36% of all foodstuffs on sale in Russia during the first half of 2003 were counterfeited, and that this was part of a worsening problem that was costing Moscow over USD 1 billion per year.

4.37 The report quoted the latest figures from the State Trade Inspectorate of the Ministry of Economy, which was itself based on some 3 000 inspections carried out during that period, of which 48% were found to be in violation of the law. More than 2 000 trading outlets were shut down, and counterfeited goods to the value of USD 1 million were confiscated.

4.38 A 2005 report quoted in the related Food Production Daily.com30 quoted the Russian Agency for Health and Consumer Rights as saying that fake food products in Russia comprise up to 94% of the market in some sectors. In 2004 the agency seized products worth almost EUR 10 million, and issued numerous orders to destroy counterfeit goods after the inspection of food industry associations and producers.

4.39 The European Commission reported that while the number of cases register has remained relatively constant in recent years (and represent a very small proportion of total cases), 5.2 million items of counterfeited foodstuff, drinks and alcohol were seized in 2005, a 118% increase over 2003 (EC Taxud,

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2005). The EC report also noted that most fakes seized were normal household items (which would include most food, drinks and alcohol) rather than luxury goods, and that the high quality of fakes often makes identification impossible without technical expertise.

4.40 Some care needs to be taken with these reports, especially, as was alluded to earlier in this section, it is not clear that all of these reported instances would actually involve infringement of intellectual property rights. However, they do provide a snapshot of the extent of problems being detected (if not necessarily accurately measured) in some major markets, and at the very least indicate that substantial intrusions of one kind or another are occurring in the food and drink industry.

Dominant effects of counterfeiting in this sector

Effects on producers

4.41 The food and beverage industry has provided relatively little information of the effects of counterfeiting on firms. In terms of economic impact, one respondent in the liquor industry reported that it had assessed its global exposure to counterfeit risk at a minimum of USD 54 million in lost sales. In addition, in order to counter the threat from counterfeiting, the company invested considerable sums each year to ensure that it afforded workable anti-counterfeiting protection to its brands. The nimbleness of counterfeiters in responding to changes in packaging and other security measures meant that these had to be constantly updated. These measures include non-refillable elements, sophisticated packaging and overt and covert devices and images to authenticate the original products.

4.42 The annual cost to the company of this rolling programme of anti-counterfeiting measures is not less than USD 75 million. Together these sums indicate the degree of financial exposure, both in lost sales and precautionary measures, faced by firms in this sector with a large number of trademarks to protect. In addition, it highlights the extent to which producers are cognizant of the effects of counterfeiting on brand valuation.

Health Considerations

4.43 Because food and drink products are intended for human consumption, the sector is vulnerable to the possible health effects of substandard counterfeit products reaching an unsuspecting market. The industry points out that these health problems could extend from headaches to people dying from the consumption of such products.

4.44 Examples involving baby formula (which led to the death of a number of babies) have been reported in China and other locations, as have incidents involving internationally branded spirits (mostly vodka because of its relatively neutral taste) which had been substituted by poorly distilled (and therefore potentially dangerous) raw spirits.

4.45 Generally, few consumers would knowingly purchase food or drink products that they knew to be fakes or substitutes unless they somehow also had prior knowledge of the suitability of those counterfeit products. In the case of food and drink, the possibility of serious health consequences would probably be too great for most consumers to take the risk. Therefore, counterfeiters do everything possible to make their counterfeited items appear as close to the original as possible, a task that is becoming increasingly easier.

4.46 As well as deceiving consumers through its appearance, there is also a risk that the more attention (and cost) goes into the packaging, the less will be devoted to the product inside, thus increasing the possibility that the fake goods could carry health risks. However, as a counterpoint it is unlikely that
counterfeiters would purposely produce harmful products, which would hinder their sales and reduce the potential returns from their investments.

4.47 Of course, even harmless fake products could negatively affect the producers of the genuine items. This is especially the case where the buyers are unaware that they have purchased a fake, and believe that they had consumed the genuine item. Food and drink producers claim that they are particularly prone to such reactions from customers, especially if there is ever any suspicion (even if unjustified) that there may be health problems associated with the substitutes.

4.48 Such secondary effects could devastate a market, as it may require extensive recalls of products, and it could take the producer of the genuine items years to rebuild consumer confidence. These concerns were mentioned a number of times by respondents to the OECD survey. In this respect, food and drink producers share some characteristics with other sectors where health and safety are involved (such as pharmaceuticals and auto parts) and this results in problems that are quite different from those experienced by sectors with less sensitive goods, where health and safety are not considerations.

4.49 This is because as well as having to deal with the normal effects on sales, revenues, brand value and customer loyalty, the food and drink producers also have potential regulatory and legal issues to deal with, if consumers become ill, or die as a result of consuming counterfeited products, even if the producers of the original items are totally blameless.

**Other effects**

4.50 A further specific point worth mentioning is that with spirits (as is the case with cigarettes) here is the likely loss of government revenue from excise duties and other taxes to consider; a direct effect that is less evident in other goods that are subject only to general taxation.

**Actions taken**

4.51 A unique characteristic of the food and drink sector is that many goods are produced by following old, traditional and frequently secret processes and recipes. These would normally be protected by patents, but several respondents noted that they had little trust in the national and international legal systems at their disposal to defend those recipes and processes if they were to become publicly known, and therefore preferred to simply keep those processes and recipes secret. Some of these respondents described elaborate security measures to ensure that those secrets were protected. Perhaps significantly, none of the survey respondents reported either patent infringements or breaches of confidentiality arrangements.

4.52 The majority of problems reported related to substitutes and look-alikes (essentially trademark rather than patent infringements). Responses to such infringements were largely restricted to civil action on the part of the IP owners, such as “cease and desist” letters requesting retailers to cease infringing those trademarks or registered designs. Raids, undertaken with the assistance of local authorities were also mentioned, although this greatly increased the cost of any protective action.

4.53 As an example of this, one respondent noted that in China it is possible to initiate action at the “administrative” level (i.e. local and city level administration) to conduct raids and have infringing material destroyed at quite short notice – for a cost of around USD 2 000 to USD 5 000 per action. Taking a major perpetrator to court is also an option, but litigation costs are estimated to start at around USD 20 000 for even a simple case.

4.54 While virtually all respondents advised that they carry out their own trademark watching service by using staff reports and observing market activities, some went much further, by hiring investigators and local agents. These permit deeper penetration and enable greater control to be exercised at local level, as
well as facilitating the establishment of direct contacts and networks with local police and enforcement authorities. This kind of action is relatively effective, but is expensive for the companies concerned.

4.55 The most extensive co-ordinated action has been taken by the international spirits producers, who some 20 years ago formed and funded an industry association (the International Federation of Spirits Producers [IFSP])\(^{31}\). The IFSP includes eight major companies, with regional and local representation by a number of others, and its aims are to:

i) Combat the counterfeiting of alcoholic beverage products.

ii) Support legal actions taken by law enforcement agencies or other authorised bodies against those concerned in the production, sale or distribution of counterfeit spirits.

iii) Liaise with all appropriate authorities and provide information, analytical techniques training and assistance relating to counterfeit spirits.

4.56 In responses to the OECD survey the industry noted that the IFSP provides a single industry contact point for law enforcement agencies, thus enabling the industry to avoid duplication of investigative effort, and to enable producers to speak with one voice in public and private forums. The IFSP also targets those markets where there is pronounced production of counterfeits, or where counterfeit producers find safe havens for exporting their products. However, the industry also reports that despite these extensive and quite costly efforts (the cost of the IFSP is around USD 3 million per year) there is no demonstrable reduction in the levels of counterfeiting.

4.57 Other actions taken by firms in this sector involve technological deterrents to counterfeiting, such as holograms, microdots, modifications to printed data codes, use-by dates, batch numbers, markers and so on. However, respondents also noted that counterfeiters were becoming more nimble in responding to these technical solutions, emphasising that counterfeiters were being aided and abetted in this by ever improving (and cheaper) manufacturing, computing and printing technology.

4.58 An observation made by most respondents to the survey, and one which has been reflected in all other sectors covered by the OECD survey, was that government resources (police, investigators, prosecutors, court facilities etc.) allocated to deal with counterfeiting are generally inadequate, and reflect the relatively low priority (if not necessarily low importance) attributed to counterfeiting when compared to other breaches of the law such as drugs, smuggling of weapons and people and so on. The industry noted that this has been especially troublesome in those instances where even though the underlying laws have been well crafted, effective implementation has been difficult to achieve.

4.59 In other words, the experience in this sector reinforces the more generally held view that while counterfeiting is considered by governments and authorities as an important economic problem, it is generally thought of as a relatively “soft crime” (and in many instances not a crime at all) and that this results in counterfeiting being given a relatively low priority compared to other illicit activities when scarce resources are allocated.

4.60 Associated with this is the point made by many respondents (in all sectors surveyed) that from their perspective prosecution and other legal action against counterfeiting is difficult and expensive to carry out, and that penalties and punishments are rarely sufficient to deter counterfeiters. This reflects a general view (that appears in virtually all industry responses to the OECD survey) that until the seriousness

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\(^{31}\) See www.ifspglobal.com
of the problems associated with counterfeiting are recognised, then efforts to combat this growing phenomenon will ultimately always be inadequate.

4.61 With respect to the food and drink sector, the following issues were frequently mentioned as being evidence that counterfeiting is not a “soft crime” and that it has real victims:

- Many food and drink products could be substandard, contaminated or otherwise dangerous, and could cause serious health problems and even death if consumed.
- There is evidence of the involvement of organised crime in the sector, especially in the spirits sector which requires substantial investment by the counterfeiters to realise substantial profits.
- Some respondents noted that their staff were being threatened and attacked by interests wishing to protect their counterfeiting activities.
- With some products (in particular spirits) counterfeiting reduced government revenue from excise and other taxes.
- Counterfeit activity undermines the rule of law by creating affiliated, up-stream and down-stream industries.

4.62 Finally, there were some statements made in support of well co-ordinated government action to combat counterfeiting, with the European Union Customs Regulations facilitating the identification of suspect goods so that they can be acted upon. In addition, the EC Directive on the enforcement of IP rights\(^2\) will provide a more co-ordinated approach to the handling of IP infringements was specifically mentioned in this context. Such action was considered by respondents as indicating the kind of support that is given by some governments and administrations to protect IP rights, and which in turn strengthen private actions taken by the owners of those rights.

4.63 However, as a counterbalance to this, the point is also frequently made that in the end combating counterfeiting does not appear to have sufficient official government support and resources, and that from the industry’s perspective these combined efforts are a long way short of adequately addressing the problems raised by counterfeiting. In some cases, respondents noted that local laws were either inadequate, or were ineffectively implemented, and this constrained and frustrated the efforts of both customs and regulatory personnel and the IP owners themselves, from effectively dealing with counterfeiting.

**Possible specific actions to address problems in this sector**

4.64 In their responses to the OECD questionnaire, respondents offered a number of suggestions to enhance the ability of governments and the industry to combat counterfeiting and piracy.

- Enhance and harmonise registration and control of trademarks, and actions to combat counterfeiting and piracy.
- Introduce strong criminal sanctions to punish offenders and to act as deterrents, rather than relying heavily on civil actions.

\(^2\) Directive 2004/48/EC.
Governments and international organisations need to bring together all law enforcement agencies and genuine industries to share intelligence and improve the effectiveness of enforcement operations.

Training of law enforcement officers and the judiciary is vital.

Explore the possibility of modifying Article 51 of the TRIPS Agreement to extend its scope to export, transit and trans-shipment controls in all jurisdictions.

Enhanced consumer education and public awareness campaigns to address the problem that most consumers see nothing wrong in purchasing counterfeited products (presumably this refers to products that are clearly fakes and sold as such, and not to instances where consumers are deceived into buying a product believing it to be the real thing).

Summary

Perhaps surprisingly, there seems to be a view within the food and drink sectors (although the actual extent of this is not clear) that the level of sophistication required to produce certain products, the difficulties associated with the handling and transport of food and drink products (especially those that are perishable) and the low profit margins involved, would discourage many would-be counterfeiters, and that therefore the levels of counterfeiting experienced in the sector are comparatively low.

On the other hand, some respondents identified serious instances of counterfeiting and trademark misappropriation, and commented on the growing sophistication of counterfeiters in replicating the original look and feel of the packaging.

One respondent even went so far as to say that as technologies rapidly develop, the counterfeit operations are becoming much more advanced, and that the better counterfeits not only look good but the quality of the products themselves are passable, and the counterfeiters are almost creating their own business of acceptable fakes, where consumers will return to those products.

It is suggested that this growing sophistication, and the ever present threat of serious health risks from consumers unknowingly consuming fake food and drink products, should remove any complacency that may exist in this sector, as producers may face serious market, financial and legal repercussions if their products, rightly or wrongly, are linked by customers with possibly harmful fakes and substitutes.

Despite some government acknowledgement of the problems caused by counterfeiting the general level of commitment by them, especially in the allocation of resources to combat counterfeiting, are still considered by this industry as being inadequate.
ATTACHMENT

Drivers to production and consumption of counterfeited goods in the food and drink sector

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECT ON PROPENSITIES TO PRODUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Profitability</td>
<td>Generally low profit margins</td>
</tr>
<tr>
<td></td>
<td>The industry view is that even if counterfeiters avoid R&amp;D and promotional costs they still need considerable manufacturing, transport and distribution effort (especially for bulky or perishable items), and that the low margins available would discourage many would-be counterfeiters.</td>
</tr>
<tr>
<td>Market size</td>
<td>Large, mass market</td>
</tr>
<tr>
<td></td>
<td>This is potentially very large, as food and drink products are universal, so the whole world is a potential market.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Many brands in the food/drink sector have global reach, and some are as well known as the best brand in other sectors. Many will also have built up a reputation for safety, quality and consistency, and branded products are supported by advertising and promotions.</td>
</tr>
</tbody>
</table>

**Production, distribution and Technology**

<table>
<thead>
<tr>
<th>Production investment</th>
<th>Moderate investment to produce required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A moderate amount of investment is necessary to produce food and drink items, but most can be just a matter of substitution (e.g. a low quality tea for the higher quality, higher value original) and technology can easily produce identical packaging. This is therefore unlikely to be a substantial barrier to potential counterfeiters.</td>
</tr>
<tr>
<td></td>
<td>Production costs of high quality packaging and the production of some counterfeit items could be close to the cost of the originals, while on the other hand, where lower cost, lower quality substitutes are used the production costs could be considerably lower. On balance this could be considered to be a relatively low negative factor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology</th>
<th>Technology not a barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Some technology is required in order to manufacture some of the food and drink products, but this would not be a substantial barrier, especially in instances where the counterfeiting action would be the substitution with lower value items.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Logistics</th>
<th>Logistics are problematic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The industry view is that the handling, transport and distribution of food/drink are substantially more complex and expensive than other products, especially for perishable products. Therefore, counterfeiters need to be specialised and/or well organised to handle many products in this sector, which would tend to reduce its attractiveness to counterfeiters.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marketing and sale</th>
<th>Could be difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Generally, food and drink products that are intended to deceive consumers must be distributed and sold through recognised supply chains and recognised retail outlets. This could be difficult in many cases, and would limit the attraction of these types of products to counterfeiters. On the other hand this may encourage the participation of organised crime, which would be well placed to deal with these complexities.</td>
</tr>
<tr>
<td><strong>Ability to conceal operations</strong></td>
<td>Depends on items. Some will require considerable assembly of ingredients, as well as production and packaging equipment. This could be difficult to conceal effectively. On the other hand, simple substitutions could be carried out in small, mobile production units.</td>
</tr>
</tbody>
</table>
| **Ability to deceive consumers** | **Easy to deceive consumers**  
Many food and drink products are purchased on the basis of their brand name and physical appearance. Low cost technology enables counterfeiters to produce realistic packaging and markings that will generally deceive consumers. Consuming the product may or may not reveal the product as counterfeit, especially if the consumer had no prior knowledge of the original product to provide a comparison. |
| **Institutional Characteristics** | **Risk of detection**  
Low, but closely watched  
The quantity of food and drink products that are produced, transported and consumed every day, all over the world makes detection of counterfeited items much more difficult. On the other hand, because of the potential health risks (not necessarily involving only counterfeited items) there is considerable supervision and testing to ensure products meet health standards, and this increases the likelihood of detection. Overall, this is a driver that could both encourage and discourage counterfeiters.  
**Enforcement**  
If detected, risk of prosecution probably high  
Because of the potential health risks associated with inferior products, the probability of prosecution could be very high, and would be a factor to be accounted for by counterfeiters.  
**Penalties**  
Penalties likely to be high  
Because food and drink is concerned, their counterfeiting or substitution could attract substantial penalties, especially if legal action is taken under criminal rather than civil law. |
| **FOR CONSUMERS** | **EFFECT ON PROPENSITIES TO CONSUMER NON-DECEPTIVE ITEMS** |
| **Product Characteristics** | **Price**  
Cost savings relatively low  
For most foods (i.e., excluding up-scale, premium brands), the cost of counterfeit products is likely to be lower than the genuine items, but not by large amounts, especially where considerable effort goes into deceiving the consumer. However, lower prices may encourage consumers to treat counterfeits as acceptable substitutes, despite possible health risks.  
**Quality and nature of product**  
Outwardly close in appearance to originals  
Reportedly, appearance of counterfeited products very close to originals. Consumers may not be able to differentiate any differences in taste.  
**Ability to conceal status**  
Image not a factor  
Apart from some limited products, such as sports drinks, some spirits and some luxury goods (e.g., caviar), image is unlikely to be a major factor in encouraging the consumption of counterfeited food and drink products. |
### Consumer Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Could be high and dangerous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health concerns</td>
<td>This should be a very important driver, given the potential after effects of poor or contaminated ingredients in food and drink. However, the success of counterfeiters largely hinges on consumers being deceived to believe they have purchased genuine items. On balance it is suggested that health concerns would be overwhelming, especially if consumers are put on their guard about the potential dangers, and this should act as a brake to the purchase (witting or unwitting) of counterfeited products.</td>
</tr>
<tr>
<td>Safety risks</td>
<td>Not a significant factor</td>
</tr>
<tr>
<td></td>
<td>No apparent safety issues</td>
</tr>
<tr>
<td>Personal values</td>
<td>Not a factor</td>
</tr>
<tr>
<td></td>
<td>Unlikely to be a major factor one way or the other in this sector.</td>
</tr>
<tr>
<td>Risk of detection</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Likelihood of detection for the consumer is likely to be low, as consumers would be most likely treated as victims, and detection efforts would be most rewarding when directed towards manufacturers, distributors and sellers.</td>
</tr>
<tr>
<td>Risk of prosecution</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Likelihood of prosecution is low, especially as the deception of consumers would tend to make them the victims rather than the offenders if counterfeited products are consumed.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Even if detected and prosecuted, penalties imposed on final consumers likely to be low.</td>
</tr>
<tr>
<td>Availability and ease of</td>
<td>Not necessarily easy, or at least obvious</td>
</tr>
<tr>
<td>acquisition</td>
<td>As food/drink items are generally distributed through normal supply chains consumers may not always find (or realise that they have) counterfeited items.</td>
</tr>
</tbody>
</table>

### References


European Commission (EC), Taxud (2005), Statistics Recorded at the External Borders of the EU, 2005.


CHAPTER 5  PHARMACEUTICALS SECTOR

General description

5.1 The purpose of this paper is to provide an overview of the nature of counterfeiting activities, assess the magnitude and trends of these activities, examine the effects on patients/consumers, intellectual property holders, companies and governments, as well as analyse the measures for combating counterfeiting and piracy activities in the field of pharmaceuticals. The counterfeiting and piracy of pharmaceutical products involves the deliberate deception of patients, healthcare providers and suppliers of genuine products such that they unknowingly acquire products of unverified quality, safety and efficacy. Thus, counterfeit pharmaceuticals very often infringe intellectual property rights, violate health and safety legislation and regulation, and create the potential for serious public health consequences.

5.2 Pharmaceuticals are amongst the most heavily regulated product sectors, understandably due to their direct impact on human health. Consequently, the counterfeiting and piracy of pharmaceutical products is, in most jurisdictions, subject to a myriad of legislation and regulation including that applicable to the regulation of pharmaceutical products, intellectual property rights, criminal and penal field, customs and border, etc. In addition to the applicable national legislation, from an international intellectual property perspective, the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS Agreement) is also applicable. While this report will examine the issues of counterfeit and pirated pharmaceuticals primarily from an intellectual property perspective, it is important to highlight that the most harmful consequences of counterfeit pharmaceuticals are their nefarious implications for and impact on human health.

5.3 Brand-name, generic and over-the-counter pharmaceuticals have been the subject of counterfeiting activities. In addition, the basic components of pharmaceutical products - active pharmaceutical ingredients (APIs) and excipients - have also been the subject of counterfeiting activities. Within the scope of this paper, the term “pharmaceutical product” will be employed to include brand-name products, generic pharmaceuticals, over-the-counter products, vaccines and herbal medicines/remedies where regulated. However, for the purpose of this study, this term will not cover medical devices or traditional medicines (i.e., homeopathic remedies), although it should be noted that counterfeiting and piracy has also expanded to these areas.

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33 In fact, the same event may be viewed and counted from different perspectives. For example, the production of a counterfeit drug may constitute an intellectual property rights infringement, a regulatory violation and a criminal activity, and it may be pursued under any of these headings.

34 According to the WHO, a counterfeit medicine is “a medicine, which is deliberately and fraudulently mislabelled with respect to identity and/or source. Counterfeiting can apply to both branded and generic products”. IMPACT, “Counterfeit Medicines: An update on estimates” issued 15 November 2006.

35 Within this paper, the terms “pharmaceutical product(s)”, “pharmaceutical(s)”, “medicine(s)”, “drug(s)” will be used interchangeably.
5.4 Precise data on the size of the global pharmaceutical market are difficult to obtain, thus only a general picture is presented.\textsuperscript{36} The audited and unaudited data for global pharmaceutical sales provides a general overview (IMS Health 2006). This data demonstrates that the size of the global market, measured by sales, is increasing annually, having risen from USD 387 billion in 2001 to approximately USD 566 billion in 2005. It appears that sales are increasing steadily in all regions. IMS reports that in 2005 the global pharmaceutical market grew by 7\%, to USD 602 billion.\textsuperscript{37}

Table 5.1: Global Pharmaceutical Sales by Geographic Region in USD and by % of Global Sales

| Pharmaceutical Global Sales Total World Market Audited and Unaudited Data | 2001 (USD Billion) | 2001 % | 2002 (USD Billion) | 2002 % | 2003 (USD Billion) | 2003 % | 2004 (USD Billion) (a) | 2004 % (a) | 2005 (USD Billion) (b) |
|---|---|---|---|---|---|---|---|---|
| North America | 181.8 | 47.0 | 203.6 | 47.8 | 229.5 | 46.6 | 248 | 45.1 | 265.7 |
| European Union | 88.0 | 22.7 | 90.6 | 21.2 | 115.4 | 23.4 | 144 | 26.2 | 169.5 |
| Japan | 47.6 | 12.3 | 46.9 | 11.0 | 52.4 | 10.8 | 58 | 10.5 | 60.3 |
| Rest of Europe (c) | - | - | 11.3 | 2.7 | 14.3 | 2.9 | 9 | 1.6 | NA |
| Asia, Africa & Australia | 27.9 | 7.2 | 31.6 | 7.4 | 37.3 | 7.6 | 40 | 7.3 | 46.4 |
| Latin America | 18.9 | 4.9 | 16.5 | 3.9 | 17.4 | 3.5 | 19 | 3.5 | 24.0 |
| Unaudited Countries | 22.8 | 5.9 | 25.4 | 6.0 | 26.7 | 5.4 | 32 | 5.8 | NA |
| TOTAL | 387 | 100 | 426 | 100 | 493 | 100 | 550 | 100 | 565.9 |

(Source: IMS Health, 2006)

\textsuperscript{a) Global pharmaceutical sales in 2004 are derived from IMS audits, which covers 95\% of the market, the remaining 5\% are estimates from IMS World Review. The 2004 numbers are missing data from Belarus, Bulgaria, Dominican Republic, Estonia, Lithuania, Russia and Ukraine as data was not available at time of analysis. Constant USD.}

\textsuperscript{b) Excludes “Unaudited Data”: information current as of February 27, 2006. NA = Not Available.}

\textsuperscript{c) European countries not part of the European Union.}

5.5 In 2005, the top 50 pharmaceutical companies accounted for USD 419.05 billion in global sales and spent USD 75.25 billion in research and development (“R&D”) (PharmaExec 2006). The top 10 of the top 50 companies accounted for USD 249.04 billion in global sales and spent USD 44.97 billion on R&D. Amongst the top 50 companies, the headquarters, on a per country basis, are predominantly situated in the United States (\textit{i.e.} 20) and Japan (\textit{i.e.} 12). In 2005, the top ten selling products brought in sales of USD 56.9 billion, with Lipitor, the best selling pharmaceutical, bringing in USD 12.90 billion. In 2005, 13 products broke into the ranks of the blockbusters, bringing the number of products selling at more than

\textsuperscript{36} A more precise picture is not feasible due to a number of factors including the number and breadth of entities involved in this sector, including small, medium and large manufacturers (both brands and generics), wholesalers, distributors, retailers, pharmacies, more recently biopharmaceutical companies; the differences in statistical standards and definitions; the unavailability of data from privately-held entities; and the cycle of expansion and contraction of the sector. When these factors are multiplied across many jurisdictions the information and data is difficult to collate and is disparate at best. The data and estimates provided below are from various resources, including from public and private resources, media, and filings for securities commissions.

\textsuperscript{37} The discrepancy between USD 565.9 billion in the table and the figure reported in the text is due to the difference between audited and unaudited data. IMS is reported as employing both the USD 602 billion and the USD 565.9 billion figure.
USD 1 billion annually up to 94 (Gray 2006). The top ten therapeutic classes brought in sales of over USD 184 billion in 2005.

Figure 5.1 **Top 100 R&D Spending**

5.6 The R&D of new pharmaceutical products is a lengthy (estimates vary, average considered as 10 to 15 years), costly and complex process (OECD 2006). One contributing element is the investment required for obtaining regulatory approval. For example, in the United States, only .01 to .02% of the compounds tested (i.e., 1 out of 5000 to 10,000) receives regulatory approval (PhRMA, 2007). As Figure 5.1 illustrates, the pharmaceutical sector is one of the most research intensive (Cientifica 2005). Based on a survey of 100 global corporations in a variety of fields, in 2004 the top two spenders in R&D by sector are pharmaceuticals and healthcare, at USD 59.33 billion, and automotive, with USD 58.83 billion. As seen above, in 2005, the top 50 companies spent USD 75.25 billion on R&D. R&D intensity charted by sector reveals software as the leader for 2004 at 18.2%, followed by pharmaceuticals at 12.5% (Cientifica 2005). As such, this sector relies on intellectual property protection, especially patents, trade secrets/know-how, trademarks, copyright and design rights, to protect its investment in R&D.

**Types of infringements**

5.7 While the counterfeiting of pharmaceuticals violates health and safety legislation and regulation, it also involves the infringement of intellectual property rights through the intentional and deceptive falsification of one or more different aspects, including the bulk ingredients, the finished pharmaceutical product and the packaging. Counterfeit pharmaceuticals also compromise the legitimate production/manufacturing activities, shipment and distribution/supply chains. These latter will be examined in the section on modes of operation.

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38 Cientifica carried out an analysis of 100 global corporate spenders in research and development over the last three years. Data was obtained from annual reports and encompasses corporations from Merck KGAA (USD 732 million spent in 2004), to Microsoft (USD 7 779 million spent in 2004).

39 The discrepancy between the figures presented by Cientifica and those above based on the Pharmaexec.com study are due to differences in the companies surveyed and the period covered by the survey.
5.8 Numerous acts constitute patent rights violation including unauthorised production, use (including theft), offering for sale, sale or importing of the patented active ingredient, irrespective of the quantity of the active ingredient that is actually employed within the counterfeit pharmaceutical product. Moreover, patent rights are also infringed when a patented process or method is employed by the counterfeiters, as unauthorised users, to produce the active ingredient(s), excipient(s) or finished product(s).

5.9 The ‘name’ or logo employed for sale of the product, the colour and shape of the tablets and pills, the packaging of the product, and any distinguishing feature may be the subject of a trademark. Under the new Treaty on the Law of Trademarks, which is awaiting ratification, rights holder will also be able to protect new types of marks, such as hologram(s), motion, colours, and marks consisting of non-visible signs, such as sound or taste. Counterfeiters pirate the logos, packaging, label, including holograms, shape, size and colour of the product in order to deliberately deceive the consumer into believing that they are acquiring the genuine product. In certain cases, the trademark for a given pharmaceutical product may become quite a valuable asset. For example, many, whether they employ the product or not, are familiar with the trademark ‘Viagra’, the distinctive blue colour, and the lozenge shape of the tablet. Highly valuable trademarks may create additional incentive for counterfeiters. By using the right holder’s trademark, the counterfeiter is able to use the goodwill and product integrity associated with the valuable trademark without the necessary investment or safeguards.

5.10 Copyrights are applicable to the packaging, the labelling, as well as the product information, instructions and inserts of pharmaceutical products. As such, when counterfeiters make or use unauthorised copies of such proprietary information, they commit copyright infringement. Furthermore, use of packaging or labelling which is inaccurate or misleading will often also violate health and safety regulations.

5.11 Proprietors may also register the colour of the tablets or pills as well as their unique shape pursuant to industrial designs. Design rights are also applicable to the shape of vials or receptacles for the pharmaceuticals products. In jurisdictions where a product and its features may be protected by multiple intellectual property rights, IP holders may pursue counterfeiting and piracy activities on a multitude of bases.

**Products most affected**

**Bulk ingredients**

5.12 The most important component of a pharmaceutical product is the Active Pharmaceutical Ingredient(s) (API). APIs are produced or purchased in bulk by manufacturers for use in the manufacturing of finished pharmaceuticals. The difficulties in detecting counterfeited bulk API lies in part in the difficulties that some authorities face due to lack of capacity and technology. For example, one company reports an increase in the existence of counterfeit APIs and increased difficulties in distinguishing between

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40 Pursuant to Article 28(1) of the TRIPS Agreement, “a patent shall confer on its owner the following exclusive rights: (a) where the subject matter of a patent is a product, to prevent third parties not having the owner’s consent from the acts of: making, using, offering for sale, selling, or importing for these purposes that product; (b) where the subject matter of a patent is a process, to prevent third parties not having the owner’s consent from the act of using the process, and from the acts of: using, offering for sale, selling, or importing for these purposes at least the product obtained directly by that process.

41 Treaty on the Law of Trademarks, (‘Singapore Treaty’), adopted March 27, 2006, [http://www.wipo.int/wipo_magazine/en/2006/03/article_0002.html](http://www.wipo.int/wipo_magazine/en/2006/03/article_0002.html). This Treaty has been adopted but is not yet ratified and thus, was not in effect as of December 1st, 2006.
the genuine and the counterfeit (OECD Survey 2005). As many bulk ingredients are imported from foreign jurisdictions, there is considerable difficulty for the regulatory authority of one country to control and detect counterfeit APIs entering it borders. For example, one company detected in 33 countries counterfeit APIs resourced in India (OECD Survey 2005). In a 2000 testimony, the US FDA indicated that it was largely unable to detect or control imported counterfeit bulk drugs from entering the United States, since there were, in 2000, over 1234 foreign bulk drug producers (GlobalOptions 2003). Pharmaceutical products also contain inactive, but important ingredients, known as excipients, which play an important role in the therapeutic performance and shelf life of both solid and liquid dosage forms.42

5.13 The intellectual property rights most often implicated in counterfeit bulk ingredients will be patent and trademark rights. Where the genuine API is protected by trademarks, counterfeiting and piracy activities constitute infringement of those rights. Bulk ingredients may be pirated through mislabelling or misbranding. To the extent that an API is protected by patents, the unauthorised use, production and adulteration of the API constitutes patent infringement. Counterfeit APIs may infringe not only product patents but also process and method claims if the counterfeit is produced through processes and methods that are the subject of patent protection. However, as detecting process and method infringement is more difficult than product patent violation, these types of violation are invoked less often. While the counterfeiting of excipients is less significant, the violation of intellectual property rights for excipients follows the pattern for APIs.

5.14 In addition to intellectual property issues, the counterfeiting of bulk ingredients raises health and safety concerns. Bulk ingredients are often manufactured in unapproved factories and under conditions not consistent with applicable health and safety regulations. For example, the counterfeiter may choose to mislabel an impure or inactive chemical as an API, or an API as being of lower or higher potency, to substitute a cheaper API for the intended, often more costly, API, or even re-label expired API with a new expiration date (GlobalOptions 2003).

**Finished pharmaceutical products**

5.15 Different data sources illustrate that finished pharmaceutical products covering a spectrum of therapeutic classes are being counterfeited. Examination of data for the European Union and North America shows that counterfeiters have targeted a wide range of modern drugs, including steroids, cancer (e.g., anti-tumor and anemia), erectile dysfunction, cardiology (cholesterol lowering and hypertension), and hormones. By contrast, the most commonly counterfeited drugs in developing countries are the basic medicines against infection (antibiotics, anti-malarials, anti-retrovirals and anti-tuberculosis), analgesics, anti-inflammatory and anti-histamines and vitamins.43 Figure 5.2 provides only a global perspective on the frequency by which each therapeutic category is linked to counterfeiting, diversion and theft incidents.

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42 According to the International Pharmaceutical Excipients Council (IPEC), excipients can be classified into the following functions (IPEC Americas FAQs): binders, disintegrants, fillers (diluents), lubricants, glidants (flow enhancers), compression aids, colours, sweetners, preservatives, suspending/dispensing agents, film formers/coatings, flavours and printing inks.

43 It is important to bear in mind that the data presented represents a snapshot in time from only 31 countries that include both developed and developing nations.
5.16 The types of intellectual property rights most implicated in counterfeit finished pharmaceutical products include patents, trademarks, and industrial design. The infringement of patent rights occurs any time there is the unauthorised production, use, sale, importation of a patented active ingredient or excipient, or use of a process or method. An example is where the counterfeit pharmaceutical contains some active ingredient but the manufacturer is not an authorised licensee, such as the production of counterfeit ‘Levitra’ in China (OECD Survey 2005). The infringement of trademarks occurs when, for example, the counterfeiter is passing off the counterfeit as the genuine pharmaceutical product. Given that ‘passing-off’ lies at the very heart of counterfeiting activities, trademarks, by their very nature, are the most easily and most frequently infringed IPRs. In other words, trademark infringement will arise even when there is no patent infringement, as for example, if there is no patented active ingredient and no patented process or method has been employed, so long as the counterfeit product uses an identical or confusingly similar trademark and is made to look and pass-off as the genuine product. For example, every counterfeit ‘Viagra’, ‘Cialis’, ‘Levitra’, etc. tablet placed on the market in Europe violates the respective trademark. Industrial design rights are infringed any time that the counterfeiter has copied the design of the genuine pharmaceutical which has been registered in the applicable jurisdiction. Recently, more and more companies have begun to register the shape and design of particular pharmaceutical products. For example, for ‘Cialis’ the shape of the tablet, the stamped lettering on each different dosage tablet (i.e., C10, C20), and the ‘C’ have all individually been registered in Europe under the Community Design. Thus, every counterfeit ‘Cialis’ tablet is violating Lilly’s many design rights.

5.17 A recent and worrisome occurrence, which may foreshadow the emergence of a new trend, is illustrated by the case of ‘Rimonabant’, a drug to treat obesity. It was advertised for sale over the Internet in March 2006, prior to its having received marketing authorisation by the European Commission (EU 2006). In this case, the violation of intellectual property rights occurred prior to the rights holders having placed the genuine product on the market, prior to their having begun to recoup on their investment.


Note: “Other” includes: blood agents, cytostatics, dermatologicals, hospital solutions, parasitological & sensory organs.

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The number of reported cases of counterfeit pharmaceuticals cited is very small compared against the true number of counterfeit drugs produced in this time frame and it is not possible to tell to what extent the cases are representative of the drug categories involved or the type of counterfeit committed.

Article 16 of TRIPS Agreement states that “The owner of a registered trademark shall have the exclusive right to prevent all third parties not having the owner’s consent from using in the course of trade identical or similar signs for goods and services which are identical or similar to those in respect of which the trademark is registered where such use would result in a likelihood of confusion. In the case of the use of an identical sign for identical goods or services, a likelihood of confusion shall be presumed.”

and even prior to the product having been declared safe for patient use. This example, of the launch of the counterfeit prior to actual marketing approval of the product, represents also a violation of health and safety regulation.

Packaging and labelling

5.18 Counterfeit packaging and labels raise violations of copyright, trademark and design rights. Counterfeits achieve their deceptive goal of passing for the genuine product because counterfeiters are able to copy the packaging and labelling of genuine products, re-date expired genuine product, or package counterfeit products in genuine packaging obtained through unauthorised means. One study examined 286 incidents and found that 67% had both counterfeit pharmaceutical and packaging, 28% had only counterfeit pharmaceutical and 5% had only counterfeit packaging (PSI 2005). Counterfeiters employ state-of-the-art technologies to produce counterfeit labels that, on their face, are indistinguishable from the genuine original labels and apply them to the counterfeit bulk ingredients or finished pharmaceuticals. They have the ability to make and stamp tablets with company logos and even to package them in blister packs (see examples). For example, in one seizure presses and punches that were used by counterfeiters to deboss the terms ‘Pfizer’, ‘VGR 100’ and ‘VGR 50’ were seized (Pfizer 2005). Investigations have highlighted that counterfeiters are able to reproduce tube vials and holograms, violating design rights. For example, very sophisticated holograms to protect genuine artesunate, an anti-malarial, have been copied by counterfeiters in Southeast Asia (Newton 2006). They are often able to replicate them sufficiently well to deceive the average patient and possibly even the unaware medical professional. The presence of sophisticated holograms on the counterfeit, even when the genuine packaging does not contain holograms, has been reported to increase consumer’s acceptance of the counterfeit as genuine (Collier 2005).

5.19 Another counterfeiting practice is the prolonging of the approved shelf life by replacing the date label or repackaging the drugs with altered date labelling. In this case the drugs have been obtained at low cost due to their being very close to, or having passed their legal expiration date. Such a drug is still a counterfeit despite being produced by an authorized manufacturer through an approved process with the approved quantities of active ingredients under appropriate quality conditions. This situation raises a multitude of intellectual property as well as health and safety violations.
5.20 Counterfeiting of pharmaceuticals is an opportunistic activity, violating, amongst others, intellectual property, health and safety, and criminal laws, placing patients’ health at risk and whose detection and prevention is difficult. Assessing the prevalence of counterfeiting activities, both on a global and regional scale, is a difficult objective given the paucity of reliable data. The underlying reasons for such paucity include use of divergent definitions and terminology across jurisdictions, uneven or no data collection either within or across jurisdictions, differences in measurement techniques, variety of legislative and regulatory mechanisms pursuant to which investigations and prosecutions are carried out, a multitude of enforcement agencies involved in anti-counterfeiting activities, and the clandestine nature of such activities. Nevertheless, the available data suggests a rise in pharmaceutical counterfeiting, both in terms of volume and diversity of products affected. The analysis below aims to provide an overview rather than a precise evaluation and is based on OECD survey work and additional research.

5.21 Today, few jurisdictions, whether developed or developing, are immune from counterfeit pharmaceuticals and the infringement of intellectual property rights, as such activities have been reported on all continents (OECD Survey 2005)\textsuperscript{47}. A figure providing a global magnitude is not representative since reports by region indicate a wide level of divergence. For example, the magnitude of counterfeit pharmaceuticals has been reported as low (\textit{i.e.} less than one percent) for jurisdictions such as Australia, Canada, the EU, Japan, New Zealand and the U.S., versus 10\% to 30\% for some developing countries.\textsuperscript{48}

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\textsuperscript{47} With the exception, at the current time, of the two Poles.

Jurisdictions are often the victims of multiple acts including production, sale, importation and export of counterfeit pharmaceuticals. For example, one entity reported that counterfeits of its pharmaceutical products sourced in China were detected in 42 countries (OECD Survey 2005). Similarly, counterfeit active pharmaceutical ingredients have been reported as exported from India to 33 jurisdictions (OECD Survey 2005). Data systematically collected by one entity provides some insight into the scope and magnitude of counterfeiting activities in different jurisdictions (PSI 2005, 2006). Table 5.2 reveals that in 2005 the jurisdictions with the most reported incidents were 1st China, 2nd Russia and 3rd United States but measured by number of seizures, the jurisdictions were 1st Russia, 2nd China and 3rd South Korea. In 2005, based on the European Commission’s TAXUD statistics, 75% of the cases of counterfeit medicines originated from India, 7% from Egypt, and 6% from China (TAXUD 2005). It should be noted that the incidents reported in the Table represent a small percentage of pharmaceutical counterfeiting activities in any given jurisdiction. One interesting aspect that the Table highlights is the dearth of data available for some jurisdictions, such as the African continent, and some other developing jurisdictions.

Table 5.2  Top ten by incidents and by seizure

<table>
<thead>
<tr>
<th>Rank by Incidents</th>
<th>Reported Total Incidents</th>
<th>Rank by Seizures</th>
<th>Number of Seizures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. China</td>
<td>158</td>
<td>1. Russia</td>
<td>93</td>
</tr>
<tr>
<td>2. Russia</td>
<td>102</td>
<td>2. China</td>
<td>87</td>
</tr>
<tr>
<td>3. United States</td>
<td>100</td>
<td>3. Korea</td>
<td>66</td>
</tr>
<tr>
<td>4. Colombia</td>
<td>71</td>
<td>4. Peru</td>
<td>54</td>
</tr>
<tr>
<td>5. Korea</td>
<td>67</td>
<td>5. Colombia</td>
<td>50</td>
</tr>
<tr>
<td>6. Peru</td>
<td>61</td>
<td>6. United States</td>
<td>42</td>
</tr>
<tr>
<td>7. Brazil</td>
<td>51</td>
<td>7. United Kingdom</td>
<td>39</td>
</tr>
<tr>
<td>8. India</td>
<td>46</td>
<td>8. Ukraine</td>
<td>28</td>
</tr>
<tr>
<td>9. United Kingdom</td>
<td>46</td>
<td>9. Germany</td>
<td>25</td>
</tr>
<tr>
<td>10. Ukraine</td>
<td>30</td>
<td>10. Israel</td>
<td>25</td>
</tr>
</tbody>
</table>


5.22 A worrisome trend is that counterfeits are increasingly being detected as having entered the supply chain of some of the most regulated jurisdictions. For example, in 2005, ‘Lipitor’ tablets awaiting distribution through the UK’s National Health System were determined to be counterfeit (OECD Survey 2005). Similarly, in 2003, 18 million tablets of ‘Lipitor’ had to be recalled in the United States due to the commingling of counterfeit tablets with genuine tablets by counterfeiters (OECD Survey 2005).

49 It should be noted that the number of reported incidents and seizures in a specific jurisdiction is not necessarily indicative of the full scope of the counterfeiting and piracy problem in that jurisdiction or the relative magnitude of pharmaceutical counterfeiting in one country vis-à-vis other countries worldwide. Reported incidents likely represent a small percentage of pharmaceutical counterfeiting activities in a particular country. Conversely, the fact that a jurisdiction has a relatively large number of reported seizures may speak more to its enforcement efforts than to the prevalence of counterfeiting.

50 The PSI defines an incident as a discrete event triggered by the discovery of counterfeit, illegally diverted or stolen pharmaceuticals. PSI considers an incident to be a unique occurrence for which it must have adequate factual information such as a particular date, time, place and type of pharmaceutical product involved. Incidents vary by magnitude, scale and timeframe. Magnitude refers to the quantity of counterfeit medicines found. An incident may involve small quantities of a single product or conversely, hundreds of thousands of counterfeit pharmaceuticals representing multiple products. Scale refers to the size of the organization involved. Lastly, incidents can vary by timeframe. Incidents may occur over an extended period of time. An incident may be reported by anyone - including drug inspectors, customs officials, police officers, or the general public. The discovery of illegally diverted or counterfeit pharmaceuticals may be the result of government or industry market surveillance. Pharmaceutical Security Institute (PSI) (2006), Annual Situation Report, 2005
Counterfeit products, whether or not distributed through the legitimate supply chain, will violate protected IP rights.

5.23 An examination of the data also points to an increase in the number of incidents/activities reported and prosecuted in the last few years. For example, one source reports an increase in number of incidents of approximately 27% between 2004 and 2005 (PSI 2006). Another illustration is the recent occurrences in the UK of three types of counterfeits reaching patients through the legitimate supply chain: counterfeit ‘Viagra’, ‘Cialis’ and ‘Reductil’, in 2003 and 2004. According to MHRA, these were the first cases of counterfeit drugs to penetrate the regulated UK supply chain since 1994 (MHRA 2005). However, such increases can not be attributed solely to an increase in counterfeiting activities, but are also a result of better surveillance, improved detection and increased prosecution. For example, in the US there was an increase of approximately 93% in the number of cases opened between 2003 and 2004, which was attributed in part to increased awareness and vigilance at all levels of the distribution chain, increased coordination with state and federal law-enforcement agencies and better communication with drug manufacturers (US FDA 2005). Similarly, the US Customs and Border Protection reported a 144% increase of IPR seized of counterfeit pharmaceuticals from mid 2005 to mid 2006, as determined by value (US CBP 2006a).

5.24 The cases mentioned above also highlight another trend, namely diversification of the types of products targeted. Examination of data for the European Union and North America reveals that counterfeiters have targeted a wide range of modern drugs, including in the areas of cancer (anti-tumor and anemia), erectile dysfunction, cardiology (cholesterol lowering and hypertension), hormones and steroids. Counterfeiters are tempted by these high-value pharmaceuticals, especially as often they are the best selling drugs in the world. In light of their high value nature, these pharmaceuticals are protected by a plethora of intellectual property rights which are registered and protected in these jurisdictions and are violated by the counterfeiters.

5.25 In developing countries, the most often protected and violated intellectual property rights are trademarks, copyrights and less often design rights. In developing countries the data reveals that the most commonly counterfeited drugs include the basic medicines against infection i.e., antibiotics, anti-malarials, anti-retrovirals and anti-tuberculosis. For example, holograms applied to protect anti-malarials are being counterfeited, violating design rights (Newton 2006). It has been reported that trademark infringement actions are amongst the most effective means to pursue legal action against counterfeiters. Thus, measures are taken to ensure that high risk trademarks are recorded in as many jurisdictions around the world, where recordation is possible (OECD Survey 2005). However, here the challenge, in addition to registration, is enforcement of rights. Another challenge arises when counterfeit pharmaceuticals are so prevalent that the limited resources are unable to control the problem, wherein many right holders simply leave the jurisdiction, as occurred in Nigeria. Prior to 2001, when counterfeit pharmaceuticals were estimated to comprise as much as 80% of the Nigerian market, pharmaceutical companies abandoned rights (NAFDAC 2006).

5.26 Regulation, investigation and enforcement of activities in the pharmaceutical sector are governed by a multitude of legislation and regulation covering diverse fields, including regulatory approval and safety (e.g., drug administration, quality control, pharmaceutical distribution, importation, manufacturing, marketing, patient information, licensing practices), criminal and penal activities (e.g., contraband activities, racketeering, endangering life), intellectual property (trademark, patent, copyright, industrial design), customs and border activities, consumer protection, etc. Counterfeiting activities often will simultaneously violate a number of statutes in diverse areas. Whether an action is brought pursuant to a particular charge will depend on a number of factors including which charge will have the highest success rate and result in the most severe penalties. Criminal laws often not only provide the breadth of investigative powers and seize authority necessary to penetrate and dismantle counterfeiting operations,
but also ensure that more severe penalties can be imposed on counterfeiters. Thus, although many counterfeit activities violate intellectual property legislation, often the prosecution will be brought under criminal law, due to more severe penalties that can be imposed on the counterfeiters. For example, in a high-profile counterfeiting case involving the global best selling pharmaceutical, the counterfeiter was sentenced to 13 and one half years of imprisonment without parole and to the restitution of millions to the government (US DOJ 2006c), because the action was brought under criminal law rather than IP law.

5.27 In trans-border counterfeiting, the initial determination with respect to intellectual property violations most often lies with the customs authorities. Given the enormous quantities of products in all sectors that pass through borders on a daily basis and often the limited time periods in which customs authorities must deal with any given shipment, any assessment of potential violation of intellectual property rights must be made quickly. In light of this, the simplest determination of the intellectual property right violation will be a trademark, as this often only requires a visual inspection. Conversely, a determination that patent rights have been violated, in the case of pharmaceuticals, involves the more complex process of a chemical analysis, which may take several days or longer. Arriving at an assessment of whether a product is infringing a process patent is even more complicated as this will require an investigation of the process used in the jurisdiction of origin for the manufacturing of the allegedly infringing good. Obviously, this results in patent infringement being alleged in border seizures only infrequently. In addition, in some countries, such as the United States, patents cannot be recorded with customs. Rather, in the United States, the rights holder must obtain an order from the International Trade Commission requiring customs to exclude any product that infringes the patent.

5.28 The use of trademark violations as the basis for retaining suspect products at borders is reflected in the data emerging from the European Community’s Taxation and Custom Union (“TAXUD”) statistics. These statistics reveal that the overwhelming percentage of intellectual property rights invoked in border seizures is trademarks (Table 5.3).

Table 5.3 Breakdown by type of Intellectual Property right covered under regulation (EC)3295/94 expressed as a % of number of cases

<table>
<thead>
<tr>
<th>Year</th>
<th>Trademarks</th>
<th>Copyright &amp; related rights</th>
<th>Designs &amp; models</th>
<th>Patents &amp; supplementary protection certificates</th>
<th>Data not communicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>83%</td>
<td>9%</td>
<td>5%</td>
<td>3%</td>
<td>-</td>
</tr>
<tr>
<td>2002</td>
<td>80%</td>
<td>18%</td>
<td>0.50%</td>
<td>1.50%</td>
<td>-</td>
</tr>
<tr>
<td>2003</td>
<td>83%</td>
<td>13.50%</td>
<td>1.50%</td>
<td>2%</td>
<td>-</td>
</tr>
<tr>
<td>2004</td>
<td>74%</td>
<td>14%</td>
<td>2%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>2005</td>
<td>79%</td>
<td>5%</td>
<td>7%</td>
<td>1%</td>
<td>8%</td>
</tr>
</tbody>
</table>


5.29 This perspective of IPR violation is also borne out in the field of pharmaceuticals. The challenge to using TAXUD data is that until 2005 there was no separate category for pharmaceuticals, as there is for “clothing accessories” or “computer equipment”. Rather, pharmaceuticals were part of the catch-all category of “Other Goods”. Table 5.4 and Figure 5.4 have been developed by extracting from the category “Other Goods”, the figures that pertain to pharmaceuticals. It presents an approximation of the number of cases registered as trademark violations with TAXUD for the field of pharmaceuticals. In 2005, TAXUD

51 The term “custom authorities” is employed in a generic sense and may include customs, border patrols, etc. authorities. The powers granted to customs authorities across the world vary considerably, from search, seizure and destruction to simple detention for limited time periods.

52 These figures are an extrapolation from the percentages of cases identified as pertaining to a particular trademark and the total number of cases per member country in the “Other Goods” category. In certain
decided, for the first time, to collect statistics for seizures of pharmaceuticals as a separate category. In 2005, there were 148 cases pertaining to medicines registered with TAXUD. The breakdown of the number of medicines cases registered expressed as a percentage by origin/provenance reveals that in 2005, 75% of the cases involved provenance from India, 7% from Egypt, 6% from China, 4% from Thailand, and 1% from Argentina. The 148 cases pertaining to medicines that were registered with TAXUD constitute 1% of all the cases registered for all product types. While this data should not be interpreted as indicating that there are few counterfeit pharmaceuticals being imported into the EU, it does highlight that few cases of intellectual property rights violation are registered with the border enforcement authorities, and raises issues of the effectiveness of border enforcement.

Table 5.4 Number of registered cases by trademark and product type (pharmaceutical)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.96</td>
<td>0</td>
<td>1</td>
<td>12.6</td>
<td>2.04</td>
</tr>
<tr>
<td>Denmark</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Finland</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>France</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.24</td>
</tr>
<tr>
<td>Germany</td>
<td>226.24</td>
<td>0</td>
<td>50.4</td>
<td>6.08</td>
<td>35.28</td>
</tr>
<tr>
<td>Greece</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ireland</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.69</td>
</tr>
<tr>
<td>Portugal</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Spain</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sweden</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>82.56</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0</td>
<td>2.16</td>
<td>2.97</td>
<td>89.7</td>
<td>69.72</td>
</tr>
<tr>
<td>TOTAL</td>
<td>227.2</td>
<td>2.16</td>
<td>54.37</td>
<td>109.38</td>
<td>203.53</td>
</tr>
</tbody>
</table>

Source: OECD extrapolation from TAXUD data.

In circumstances, these numbers may be skewed as the unidentified percentage of cases in the “Other Goods” category was significant (defined as over 40%).

It should be noted that the newly-admitted member states of the European Union have not been included since the comparative data from 2000 was not available. These are Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

For Belgium in 2004, the unidentified percentage was 64%.

For France in 2004, the unidentified percentage was 41%. For 2002, the unidentified percentage was 52%. For 2001, the unidentified percentage was 42%.

For Germany in 2004, the unidentified percentage was 60%. For 2003, the unidentified percentage was 54%. For 2002, the unidentified percentage was 41%. For 2001, the unidentified percentage was 46%.

For Ireland in 2004, the unidentified percentage was 40%.

For Italy in 2004, the unidentified percentage was 54%.

For the Netherlands in 2004, the unidentified percentage was 43%. For 2001, the unidentified percentage was 47%. For 2000, the unidentified percentage was 52%.

For Spain in 2004, the unidentified percentage was 62%. For 2003, the unidentified percentage was 42%. For 2002, the unidentified percentage was 61%. For 2001, the unidentified percentage was 49%.

For Sweden in 2004, the unidentified percentage was 45%. For 2003, the unidentified percentage was 42%.
5.30 Another reason that trademark violations are more often invoked than patent violation is that often trademarks outlast the applicable patents. An analysis of 37 counterfeit pharmaceutical incidents reported in the United States illustrates this point. The reported incidents involved 30 drugs, of which only 20 still had valid patents. However, all 30 pharmaceuticals had registered trademarks that were infringed by the counterfeit products.

5.31 While a global figure of the economic value of trade in counterfeit pharmaceuticals is not feasible, an examination of an example of the potential profit from the counterfeiting of patented and trademark protected pharmaceuticals provides some insight into the economic motivation underlying this activity. In the United States, some pharmaceuticals have been counterfeited because they are of high value. This is the case for ‘Epogen Injection’ and ‘Procrit Injection’ (both epoetin alfa) since they are clear, colorless injectable liquids. Vials of ‘Epogen’ and ‘Procrit’ containing 2 000 U/ml of epoetin alfa were acquired by counterfeiters in the USA, re-labelled as 40 000 U/ml and reintroduced into the supply chain (Amgen, 2002; Ortho Biotech 2002a, 2002b, 2002c). The theoretical profit from this crime may be calculated as follows. A vial of the 2 000 U/ml costs USD 22 while a vial of the 40 000 U/ml costs USD 445. The number of vials involved in this counterfeiting operation is believed to be 110 000, so an outlay of USD 2.42 million to purchase the 2 000 U/ml vials would result in a sale price of USD 48.95 million at full price (Jaret, 2004). The actual profit obtained will be less than USD 46.53 million since the 40 000 U/ml were sold at a discounted price in order to provide an incentive for buyers in the secondary market to purchase them and allow these buyers a mark up to provide a profit for themselves. Even so, the potential profit is still significant as the counterfeiters simply had to remove the original labels by soaking, print new labels and apply them.

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62 As indicated in the Orange Book database.
63 As indicated in the Trademark database.
Modes of operation

Manufacturing and production

5.32 Within many jurisdictions, the manufacturing and production of pharmaceutical products is a heavily regulated process, while the illicit nature of counterfeit pharmaceuticals signifies that they are not subject to any regulatory process. Counterfeit pharmaceuticals, whether APIs or finished products, may be manufactured and produced in the most dismal and unsanitary conditions. They are not produced according to Good Manufacturing Practices (GMP) or approved procedures and most often use unskilled workers. Counterfeit pharmaceuticals enter the legitimate supply chain through a slew of activities including grey markets, imports, “overruns” sold at a discount by manufacturers, diversion and theft (Becket 2005).

Figure 5.5 Examples of Conditions of Counterfeit Pharmaceuticals Manufacturing and Production

Source: Instituto Nacional de Medicamentos – ANMAT, 2006

Figure 5.6 Examples of Equipment/Technology Employed
5.33 Counterfeiters acquire the equipment for the pressing of tablets, often rudimentary and not prohibitively expensive, and through the use of cheap labour are able to mass produce tablets and blister packs in significant quantities.

Source: Instituto Nacional de Medicamentos – ANMAT 2006

5.34 While the pictures above represent the production of counterfeit pharmaceuticals in developing countries, as the pictures below illustrate, the conditions are not greatly improved when produced in developed countries. Below are pictures of labs producing counterfeit pharmaceutical products that were discovered through investigation and dismantled in the United Kingdom (MHRA 2005). All of these counterfeiting activities operate outside of the strict regulatory framework governing pharmaceuticals (including their manufacture, labelling, safety and efficacy and distribution).
5.35 The business of counterfeit pharmaceuticals is fluid and fast moving. While there are various approaches, in general, brokers or “middle men” attempt to connect buyers and sellers through a series of “comfort transactions” in which both parties attempt to develop a level of mutual trust. A generalized view of the legitimate and illegitimate distribution channels is presented in the graphics below. The illustration shows how counterfeit products may enter the legitimate distribution channels from sources in the illegitimate channel. Note that diversion and tampering can occur at any point, but the main entry points appear to be at distribution and at retail levels.
5.36 Distribution of pharmaceutical products throughout the world is complex and varies significantly from jurisdiction to jurisdiction. Pharmaceutical counterfeiters operate on a multi-jurisdictional basis wherein, for example, producers of active pharmaceutical ingredients (API) in China and India distribute in Korea, Chinese Taipei, or surrounding countries for finishing and packaging. Counterfeit products are distributed through multiple distribution channels – mainly paths of least resistance, limited law enforcement, and free trade zones. The producers flourish in developing countries. Their products are not necessarily intended for local consumption, but are often produced for retail pharmacies and distributors and Internet based customers throughout the world. Locations in the Middle East have been identified as distribution points for counterfeit products sourced from Asia and destined for Europe. A free trade zone within Central America has been identified as serving as a distribution point for products destined for North America. It should be noted that this is a snapshot fixed in time as the movement of counterfeit pharmaceuticals is constantly changing and responds to enforcement, disruption, demand and new illicit gateways (Confidential, 2006).
5.37 The popularity of the Internet coupled with efficient search engines have allowed patients to seek information on health topics including the availability of medicines from websites and encourages them to self-medicate without the guidance of physicians or pharmacists. The willingness of patients to buy medicines through the Internet has been quickly recognized by criminals as a profitable way to supply counterfeit medicines to unsuspecting customers. Of the three types of Internet pharmacies (i.e. prescription, resident medical professional and non-prescription) the last category will be examined so as to highlight the concerns that arise with many Internet pharmacies. Non-prescription Internet pharmacies dispense pharmaceutical products without any prescription and without any medical professional consultation (GlobalOptions 2003). While it would be extremely difficult to ascertain with any degree of certitude the exact number of Internet pharmacies existing, it appears that the majority of online pharmacies fall within this last category. This type of online pharmacy raises the most concern with respect to counterfeit drugs. There is no professional diagnosis, prescription or monitoring, nor is there any control of safety, efficacy, or quality of the products dispensed since this type of Internet pharmacy is not subject to any legislation or regulation.

5.38 While it may be that some of these Internet pharmacies may be dispensing authentic pharmaceutical products, this type of online pharmacy may also be established by unscrupulous counterfeiters who sell counterfeit products to the unsuspecting patient. This is especially the case for websites deceptively passing-off counterfeits as “generic” versions of the branded pharmaceutical. As Internet websites are easily created, counterfeiters establish an Internet pharmacy, exploit it and then dismantle it when the potential of being discovered has increased. Thus, this type of Internet pharmacy presents a readily available distribution channel and may be located anywhere in the world, irrespective of its advertised location, and often without a fixed location. In April 2005, in the “Bansal” case, officials from the United States through coordination with 14 countries, arrested the key individuals involved in an international Internet network that illegally sold “vast quantities of controlled substance pharmaceuticals drugs and non-controlled prescription drugs” via the Internet (DOJ, 2005c).
Organised Crime and Terrorist Activities

5.39 The criminals responsible for the manufacture and distribution of counterfeit drugs range from individuals including medical professionals such as pharmacists and physicians, to criminal groups, organized crime syndicates, rogue pharmaceutical companies, corrupt local and national officials and terrorist organizations (DEA 2006). For example, within the Russian Federation criminal organisations are manufacturing and distributing counterfeit pharmaceuticals in many cases in collusion with local officials. A survey of pharmaceutical manufacturers conducted by AIPM-CIPR in 2002 cited corruption of government authorities, political influence and lack of political will as three of the top five obstacles to anti-counterfeiting efforts. While some action has been taken, the situation has not been completely redressed.64

5.40 While the primary objective is financial gain, in some cases, such as terrorist groups, secondary objectives can include funding of political aims. For example, the link between terrorist activities and counterfeiting was again brought to light recently in March 2006 in an indictment issued by the United States government against 19 individuals on charges of operating a global racketeering conspiracy. Profits made from illegal enterprise, including through the counterfeiting of pharmaceuticals, were provided to Hezbollah, listed by the US government as a foreign terrorist organisation (US Newswire 2006).

Effects of counterfeiting and piracy of pharmaceuticals

Patients / Consumers

5.41 The most significant implications of counterfeit pharmaceuticals for patients are the health hazards from direct use and the loss of confidence in the health system, especially pharmaceutical products resulting from brand theft and patent violations (OECD Survey 2005). Pharmaceutical counterfeiting has been described as the “perfect crime” since if the patient’s condition improves, there is no investigation and if the patient’s condition deteriorates, it will be attributed principally to the medical condition or disease. The loss of faith in genuine pharmaceuticals is inevitable in areas where drug quality is perceived as being poor and results in a loss of confidence in the health-care system and the drug regulatory authorities (Newton 2006). This will especially be the case if drug regulatory authorities are viewed as not taking adequate action. In developing countries, the failure of counterfeit drugs to produce the desired therapeutic effect can undermine the confidence of the public in the effectiveness of western-style medicines resulting in patients turning to traditional local herbal remedies and faith healers. Not only does the patient not get well, but in the case of the use of antibiotics, the use of sub-therapeutic doses may contribute to the development of resistant strains of bacteria (Newton 2006). There is concern that drug-resistance may increase as a result of counterfeit pharmaceuticals. In addition, the failure of pharmaceutical products due to their counterfeit nature may result in a loss of confidence in healthcare professionals (OECD Survey 2005). On the economic side, the purchase of counterfeit medicines not only wastes the financial resources of the patient, especially where the patient not only does not get better, but may also require treatment for adverse reactions (OECD Survey 2005).

5.42 From a clinical perspective, the negative consequences of taking counterfeit drugs are many and range from inconvenience to death. In the case of therapies for non-life-threatening conditions, the effect on health may be modest and perhaps limited to the absence of a clinical effect. Numerous cases of counterfeited “life style” drugs used to treat erectile dysfunction, for example, have been reported with no API, resulting when taken, in unsatisfied customers. Unfortunately, in most cases the effect on patients is not systematically recorded. Records of the actual clinical effects of counterfeit drugs are most often kept

64 Confidential information provided to OECD.
only in cases involving successful prosecutions or of multiple deaths, and thus present an incomplete picture. For example, it was reported that over 2,500 deaths occurred in Niger in the period 1995 to 1996 in a meningitis outbreak when over 50,000 people were inoculated with counterfeit meningitis vaccine that contained only water (WHO, 2006a). Similarly, it has been estimated that there are at least one million deaths annually from malaria as a result of counterfeit anti-malarial drugs (WHO/UNICEF 2005), especially in Southeast Asia and Africa. Deaths from counterfeit medicine can also occur due to the presence of toxic ingredients. There have been a number of tragic occurrences involving the ingestion of diethylene glycol, an anti-freeze agent, either as a contaminant in glycerin or as a deliberate replacement for propylene glycol. The literature points to 376 reported deaths attributed to diethylene glycol, within the period 1990-98, in 4 jurisdictions (i.e. Bangladesh, Haiti, India, and Nigeria). More recently, in October 2006, in Panama, at least 30 deaths were attributed to the use of four medicines contaminated with diethylene glycol (DRN, 2006).

5.43 Serious side effects can also occur when a drug has been substituted for the active ingredient stated on the label. In 2002, bottles of the antiretroviral drug ‘Ziagen’ were relabelled as the antiretroviral drug ‘Combivir’ in the USA (GlaxoSmithKline, 2002). While both drugs treat the same disease, approximately 5% of the patients who take ‘Ziagen develop a potentially life-threatening hypersensitivity adverse reaction. If a hypersensitivity reaction occurs, patients are counselled never to take ‘Ziagen’ again since another dose can rapidly produce more severe symptoms that may include life-threatening hypotension and death. Since neither the prescribing physician nor the patient would know that ‘Ziagen’ was present in the counterfeit ‘Combivir’, the full implication of a mild hypersensitivity reaction could be missed and the dosing continued with severe medical consequences.

5.44 The sudden emergence of avian influenza and the concern of its spread to humans demonstrate one of the difficulties in fighting counterfeit drugs and the possible implications for human health. There have been several cases of counterfeit ‘Tamiflu’ in the USA, a drug which would be used in the event of a pandemic outbreak of influenza. The U.S. Customs and Border Protection seized 51 shipments of counterfeit ‘Tamiflu’ in South San Francisco in late 2005 and 250 parcels in New York in January 2006 (US Customs 2005, 2006). These incidents also illustrate the opportunistic nature of this criminal activity.

5.45 The acquisition of pharmaceuticals over the Internet may appear attractive to patients. From the advertisement on the website, patients may assume that they are purchasing the authentic product rather than one from an unknown jurisdiction with either no active ingredient, inappropriate levels, wrong active ingredients, toxic active ingredients, expired products with a false new expiry date, unapproved pharmaceutical products, products that have been improperly stored or transported, products that were not manufactured according to GMP, products without or with inappropriate packaging or labelling in terms of providing the patient with advice on drug usage, counter-indications, safety concerns, and potential side-effects, etc. All of these factors increase the health risk for the patient. Investigations have shown that it is possible to order and receive very dangerous medicines without a prescription. Studies have shown that patients purchasing pharmaceuticals over the Internet are more likely to be the subject of deceptive practices. For example, an August 2005 study showed that 85% of Internet drugs purported to be from Canada actually came from 27 other countries, including India, Cost Rica and Vanuatu.

65 Schedule II and III Controlled Substances, such as the prescription painkillers OxyContin (oxycodone), Percocet (oxycodone + acetaminophen) and hydrocodone were ordered and received over the Internet without a prescription (U.S. General Accounting Office, 2004a, b).

Private Sector

5.46 For the private sector, ensuring continued confidence of patients in their products and in the healthcare system in general imposes the primary burden. For pharmaceutical manufacturers, this involves activities to secure the supply chain, investigate and detect counterfeiting activities, and prosecute counterfeiters. In many cases, the manufacturer has put in place a product security or anti-counterfeiting strategy, which involves the allocation of resources (OECD Survey 2005). Pharmaceutical manufacturers put in place anti-counterfeiting technologies to safeguard their products, which may involve considerable investment. For example, the cost of anti-counterfeiting measures for one product in one jurisdiction has been estimated at 10-20% of total sales per annum (OECD Survey 2005). Moreover, pharmaceutical manufacturers must continuously update the technologies employed in order to outwit counterfeiters, who are able to copy or crack these technologies.

5.47 As reliance on technology alone is not sufficient, many large pharmaceutical manufacturers also have staff that in collaboration with governmental authorities and police forces, carry out the investigation and detection of counterfeiting activities. The operation of such investigative activities is an additional cost. While frequently the information about counterfeiting activities is shared with authorities for the prosecution of counterfeiters, there are also instances where the counterfeiter is pursued by the intellectual property rights holder. Intellectual property litigation is often a costly endeavour. Alternatively, some actions are best or only accessible to the rights holder. For example, the use of the UDRP is open to the rights holder against the alleged third party registrant. A number of pharmaceutical manufacturers have employed this mechanism to close down unauthorised websites. However, where the domain name does not contain the right’s holder trademark, an UDRP action is not available.

5.48 From an intellectual property rights perspective, the potential damage to the value of the IP right, whether trademark, copyright or patent, is a direct consequence. The potential for brand dilution is especially high for highly publicised brands (Shaw 2005). Companies are trying to ensure the protection of their valuable trademarks and IPRs around the world (OECD Survey 2005). However, to date, there are no available statistics that counterfeiting activities are directly impacting the value of IPRs in the pharmaceutical sector. A corollary is the potential effect on the sales of the genuine products, whether brand-name, generic or OTC. Sales will be impacted by the direct non-purchase of the genuine product as patients purchase the counterfeited product. For example, in El Salvador, the INQUIFAR estimates industry losses of around USD 40 million per year due to counterfeits (Encarna 2005). Sales may also be affected by a loss of confidence in the quality, safety and efficacy of a product should it be the subject of widespread counterfeiting, and especially if it may be substituted by another product. Furthermore, sales may also be lost due to recalls of counterfeit products (Shaw 2005).

5.49 Another corollary is the potential liability of manufacturers and others in the supply chain. This is illustrated in one of the few cases brought by a victim of a counterfeit pharmaceutical product (Beckett 2005). The suit was brought against the manufacturer, the wholesaler, and the retailers. In a preliminary judgement, the wholesale distributor and retailer failed to have a claim against them struck out, as it was held that they were in the best position to control movement of drugs and failed to exercise the highest practicable degree of prudence and vigilance. The claim against the manufacturer failed as it was held that the manufacturer had no duty to anticipate and prevent criminal conduct by third parties, or to design a product in such a way as to anticipate and frustrate criminal tampering.

5.50 In a perverse manner, counterfeit pharmaceuticals may have positive impacts on the anti-counterfeiting technologies industry. Previously costly technologies, such as RFID, are being refined for...
use with pharmaceutical products. If RFID adoption expands to pharmaceuticals, it is estimated to reach USD 1 billion in 2006 (Business Insights 2005b). Moreover, counterfeiting activities may even spur the development of other technologies.

Governments

5.51 For governments, the impact of counterfeit and pirated pharmaceutical products is an extension of the impact on patients and businesses. In cases where a public health authority uses government and taxpayers funds to purchase pharmaceuticals that turn out to be counterfeit, this results in a waste of financial resources, an increase in healthcare costs and the potential lack of available genuine pharmaceutical product. For example, this used to be the situation in Nigeria, wherein limited availability led to the purchasing of counterfeit pharmaceuticals (NAFDAC 2006). Patients not benefiting from the therapeutic value of the genuine pharmaceutical or having adverse reactions to the counterfeit pharmaceutical may require hospitalisation, or longer hospitalisation, both resulting in increased costs for healthcare systems. In the Fagan case mentioned above, the patient who brought the suit required considerable additional medical attention as a result of the use of counterfeit pharmaceuticals. In addition, patients not benefiting from the therapeutic value of the genuine pharmaceutical may take longer to return to being productive members of society, which in turn has implications for themselves, their families and their employer.

5.52 Governments must also expend limited resources for law enforcement activities in order to investigate and halt counterfeiting activities. For example, the Zhejiang province, China, established a nationwide reporting and complaint hotline and a reporting centre for intellectual property violations (Li 2006). As well, there are increasing reports of investigations being carried out by authorities, which reflect the re-orientation of resources to fight counterfeiting activities. As pharmaceutical products are more complex and sophisticated products, combating counterfeiting in this sector requires specially-trained personnel, such as pharmacists, or individuals with medical/scientific training, etc. Combating counterfeiting also requires additional customs and border actions, also increasing costs for the public purse. As counterfeiting activities increase, this will imply even greater resources will need to be deployed. While counterfeiter takes from the public purse directly when their products are purchased employing public funds, they also most likely rob governments of taxes receipts.

Measures to Combat Counterfeiting

5.53 Counterfeiting of pharmaceuticals is a global problem that has implications for patients and consumers, governments, companies and international organisations. In order to properly address this problem, it requires the collaboration and involvement of all of these parties. Moreover, it is a multi-factorial and multi-dimensional problem that requires simultaneously coordinated actions from all of these parties. Some of the categories in which action needs to be taken in order to redress the problem of counterfeit and pirated pharmaceuticals include the use of technology, the use of legislative and regulatory mechanisms, the strengthening of enforcement mechanisms, including through the availability of appropriate resources and international collaboration, education of and communication with the public, and through more stringent practices/control of the supply/distribution chain. Each of these actions may involve one or more actors involved in the manufacture, distribution and regulation of pharmaceutical products.
5.54 One component for combating counterfeiting is the use of technological applications. However, reliance on only technological solutions will not redress the problem of counterfeit pharmaceuticals. Moreover, the use of more than one technological solution is often required. Experience has demonstrated that even where more than one technological solution has been employed, counterfeiters are able to produce counterfeited and pirated products. The feasibility of application of a particular technology across different jurisdictions will vary in light of existing conditions and resources. Moreover, the availability of particular technological solutions will be heavily influenced by the level of economic development of a particular jurisdiction. For example, the application of RFID technologies in developing countries in Africa or South-East Asia, where significant counterfeiting activity is occurring, may not be feasible for cost and technological reasons (Brand News 2006). In these jurisdictions, governments, international organisations and industry are considering the type of technology that would be most effective.

5.55 A multitude of technologies are applied to pharmaceutical products in order to thwart counterfeiting activities. A survey of 179 industry executives found that currently the most commonly employed security measures are, in descending order, bar codes, blister packaging and colour printing (Business Insights 2005). While unit-of-use, such as blister packs, and tamper-proof packaging are the commonly used preventative technologies to deter counterfeiting activities, as seen previously, these are being reproduced by counterfeiters in jurisdictions where labour is accessible and inexpensive.

5.56 Overt technologies (i.e. visible to the eye), covert technologies (i.e., not visible and requiring equipment for authentication) and forensic technologies are increasingly being employed as anti-counterfeiting measures. Nevertheless, highly complex holograms have been copied by counterfeiters with such detail that it is impossible to detect the counterfeit with the naked eye (Newton, 2006). So as counterfeiters become adept at reproducing technologies, manufacturers need to continuously modify and increase investment into the technologies they employ. For example, an international pharmaceutical manufacturer is carrying out trials of employing forensic technologies (i.e. DNA security labels) in Latin America (Brand News 2006). If the trials are successful, the company intends to use the item-level DNA labels to replace the currently employed holograms as its anti-counterfeiting measure. Two components, one in the label and the other in the reader, produce a colour change if a product is genuine. However, the upgrading and continuous modification of technologies also raises its own challenges, including increased costs, and ensuring that the supply/distribution chain is aware of the nature and timing of the changes.

5.57 Many consider track-and-trace technologies as forming an important component for combating counterfeiting. While there are a number of track-and-trace technologies, each with different characteristics and advantages, only two examples are discussed herein: 2-D Bar Codes and Radio Frequency Identification Tagging (RFID). The adoption of any given technology is a complex question involving issues, amongst others, of cost, compatibility, feasibility, and reliability, and there are divergent views on which technologies should be adopted and the timing for their adoption.

5.58 2-D (i.e. data-matrix) barcodes are a more sophisticated version of the black-and-white barcode, in that they may permit storage of increased information along the height and length of the symbol and can be used in very small applications. Employed in the distribution of pharmaceuticals, the use of 2-D barcodes will permit the storage significantly more information, such as of lot number, expiry date, reimbursement information, and other information. It is being advocated as an anti-counterfeiting measure for use within the European Union, in light of the complex and fragmented supply chain (EFPIA 2006). It is advocated that the use of a unique, randomised (i.e., not sequential) serialised number for each...
secondary packaging unit distributed and sold across Europe will enable identification and verification across the entire supply chain, thereby improving transparency, patient safety, and combating counterfeiting (EFPIA 2006). In a repackaging scenario where the product and barcode would be separated, the 2-D barcode would no longer fulfil its purpose. The use of 2-D barcodes is viewed as complementing the use of RFID tags (EFPIA 2006).

5.59 Although the use of RFID technology continues to be viewed as expensive, it is beginning to be explored within the pharmaceutical sector (Brand News 2006). Given the relative newness of using RFID technology for pharmaceuticals, in 2004, a pilot programme called the “Jump-Start Initiative” was carried out in the United States by a network of 14 companies - pharmaceutical manufacturers, wholesalers and retailers in collaboration with the US FDA, where bottles and cases of selected drugs were tagged and then traced throughout their supply chain journey. The trials permitted product pedigree information to be accessed in real-time via a web portal. Through recall or diversion simulations unknown or missing products, as well as those whose expiry date were soon to be reached, were singled out and dealt with and recalls were facilitated as the location of the product was known. In light of the success of the trial programme, US FDA continues to advocate a phased-in approach to the adoption of RFID technology by the pharmaceutical sector starting with products most vulnerable to counterfeiting and diversion. Nevertheless, the US FDA also recognises that there remain numerous outstanding issues with RFID which will need to be addressed (US FDA 2006c).

5.60 Some pharmaceutical manufacturers are considering or have begun to incorporate the use of RFID into the packaging of their products (Business Insights). For example, by December 2005, Pfizer ensured that every package, case and pallet of ‘Viagra’ (sildenafil citrate) shipped in the United States contained RFID tags (Pfizer 2006). To date, Pfizer’s application is not yet capable of “tracking and tracing” pharmaceutical products through the entire distribution system, because complete track-and-trace requires that all actors within the supply chain invest in the compatible technology and agree to capture and share information about product movement (Pfizer 2006).

5.61 As RFID technology for use on pharmaceuticals is still under development, there remain a number of outstanding issues. There are issues pertaining to costs as the unit price for a RFID tag is considered still relatively high, and tracing equipment for downstream segments is also capital intensive. The cost issue continues to be a barrier for complete rollout for all pharmaceutical products, even within developed countries. This is an even greater concern for pharmaceutical products supplied to developing countries, where marginal differences in prices are significant. Concerns pertaining to equipment persist. For example, tags and readers continue to fail. Concerns also pertain to data standards, since to date,
agreed standards for RFID technology do not exist. The establishment of standards could also play an
important role in the lowering of costs. On the other hand, depending on the nature of the standard, it could
also increase costs and complexity. Concerns also exist around the effect of RFID on the product
quality/integrity. While these concerns may not arise for most products, they centre on the interaction
between the RFID tag and different types of pharmaceutical products or their packaging, such as biologics,
liquids and foils. Issues pertaining to the maturity of the technology in terms of its readability and
reliability persist. Challenges pertaining to the access, ownership and sharing of information throughout the
supply chain continue. The rate and speed of adoption of an RFID system across the supply chain is
another issue. Privacy concerns have been expressed as certain versions of the tags have the ability to
collect patient information, and it is unclear where and how such data would be captured and maintained.
Finally, as noted above for the 2-D barcodes, in a repackaging scenario where the product and tag would
be separated, the tag would no longer fulfil its purpose.

Legislative and regulatory mechanisms

5.62 The combating of counterfeiting relies on the combination of a multitude of legislation and
regulation covering a broad spectrum of areas including intellectual property (trademark, patent, copyright,
industrial design rights), regulatory approval (e.g., drug administration, quality control, pharmaceutical
distribution, importation, manufacturing, marketing, patient information, licensing practices), enforcement,
custom and borders, consumer protection, and criminal and penal activities (e.g. contraband activities,
racketeering, endangering life). While pharmaceutical counterfeiting is first and foremost a public safety
concern which involves countries’ health and safety legislation, intellectual property and criminal law are
also important. The lack of adequate legislation, regulation, and especially enforcement and penalties are
often invoked as weaknesses that counterfeiters exploit. This is especially advocated for the legal systems
of many economies in transition or developing countries. For example, Nigeria is working to remedy the
inadequacy of the legislation to combat counterfeit pharmaceuticals by developing guidelines. Moreover,
the myriad of applicable legislation and regulation produce another obstacle to effective and efficient
prosecution. The challenges also often lie in the application of the legislations and regulations. This brief
overview will highlight the challenges from an intellectual property perspective. It is a difficult and
complex determination, and beyond the scope of this report, to assess legislation and regulation.

5.63 A survey covering the legislation and regulation of a number of countries, reveals that many
jurisdictions, including ones often viewed as major sources of counterfeit pharmaceuticals, have in place a
system of legislation and regulation (PhRMA 2006). For example, Brazil, China, India, and Russia, all
have enacted trademark laws which provide for both civil and criminal remedies. In all cases, both fines
and terms of imprisonment are options available to the deciding authorities. Often, there are even
graduated levels of fines and terms of imprisonment. Similarly, legislation covering the active
pharmaceutical ingredient, the finished product, and the packaging are in place.

5.64 While the remedies may be available, one challenge is the non-application or the inefficiency of
these remedies and measures (PhRMA 2006). For example, in China there is a reluctance to invoke
criminal remedies against trademark counterfeiters. While provisional measures are available on an
ex-parte basis pursuant to the PRC trademark law and while the court is required to decide application
within a 48 hours period, often the time frame varies between 2 weeks and 1 month before a decision is
rendered. In Russia, civil actions are virtually not employed due to the difficulty of obtaining provisional
measures, which courts are reluctant to grant. Parties must rely on the use of criminal or administrative
actions available for trademark infringement.

5.65 Another problem is the overwhelming of the judicial and administrative systems and its agents
(PhRMA 2006). For example, in India, due to the sheer volume of litigation, judicial delays are common.
Given the complex structure of the local police and metropolitan magistrates in India, inadequacy of police
resources and inexperience of prosecutors, particularly in the specialised field of pharmaceuticals, there is a low conviction rate (i.e. about 2%). However, in some metropolitan cities, IPR Cells that have jurisdiction to investigate and prosecute trademark counterfeiters across the entire city are being established.

5.66 There are numerous legislative and regulatory lacunae. For example, the Russian trademark law does not expressly provide for injunctive relief or provisional measures. Nevertheless, these are available pursuant to the Russian Civil Code, although practiced in a limited manner. Similarly, in India and in Brazil, administrative remedies are not available for trademark infringements, except with respect to border enforcement. In Brazil, civil actions are most favoured against trademark counterfeiters, since rights holders must bear the significant burden of prosecuting criminal actions. Legislation regulating Internet pharmacies is lacking in most jurisdictions. For example, many OECD countries, Brazil, India, and Russia do not have legislation or regulation targeted to the sale and distribution of pharmaceuticals through the Internet. The European Commission has developed a draft Directive that would provide for criminal measures for the violation of IPRs. Since most jurisdictions combat counterfeiting and piracy of pharmaceutical pursuant to their legislative and regulatory framework, very few jurisdictions have enacted legislation specifically targeting the counterfeiting and piracy of pharmaceuticals. Another lacuna in many jurisdictions is the absence of regulation. Good manufacturing practices (GMP) and good distribution practices (GDP), for example, are not in place in many jurisdictions. The International Pharmaceutical Federation has developed Good Pharmacy Practice (GPP) guidelines with a view to providing assistance to pharmacists and others in developing countries (FIP 1998).

**Education and Communication with the Public/patients**

5.67 Education and communication with patients and the public with respect to counterfeit pharmaceuticals raise a number of challenges. Public education and communication about counterfeit and pirated drugs must involve all stakeholders. The information must be accurate, delivered in a manner that is accessible to the average non-expert individual and provided by a trusted entity. In case of an incident, the information must be timely but neither cause fear nor prompt patients to discontinue using their prescription pharmaceuticals. In terms of general education of the public about the dangers of purchasing and using unapproved pharmaceuticals or obtained from unapproved sources, the information must be communicated in a balanced manner, by trusted professionals, so as to not cause alarm and distrust in the health system. In order to be the most effective, this type of communication will also need to take into account cultural differences.

5.68 At the international level, the International Council of Nurses has published information and an action tool kit entitled “Counterfeits Kill” (ICN). This publication has the dual purpose of educating nurses and national associations of nurses as well as the general public about the nature of counterfeit pharmaceuticals and providing them with tools for better detection of counterfeits. For example, it contains a “Tool for the Visual Inspection of Medicines”. This document has been used by nurses to carry out, in collaboration with industry and public health authorities, education campaigns.

5.69 At the government level, numerous governments have undertaken public education and information campaigns, both in developing and developed jurisdictions. In order to be most effective, such initiatives need to be tailored to the circumstances existing within a given jurisdiction, to the needs of the population and to the culture of that jurisdiction. For example, Nigeria’s national medicines regulatory agency has undertaken a “Public Enlightenment Campaign” (NAFDAC 2006) which involves dialogue, education and persuasion of the public in order to achieve behavioural change, so that the use of counterfeit pharmaceuticals from open-air markets is halted.71 Many pharmaceutical regulatory agencies

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71 According to discussions with authorities.
provide information for both the patient/public and for pharmacists. A number of governments, including the German Ministry of Health, the UK Medicines and Healthcare Products Regulatory Agency (MHRA) and the US Food and Drug Administration, provide information on their respective websites for the public about counterfeit pharmaceuticals as well as information about the purchase of pharmaceuticals over the Internet. Recently, MHRA and the Royal Pharmaceutical Society of Great Britain issued Guidance for Pharmacists and a Guidance for Patients in order to assist both of these group in detecting and reporting incidents of counterfeited and pirated pharmaceuticals (MHRA 2006a, b).

**Enforcement**

5.70 There are a number of challenges faced by authorities in enforcement activities against counterfeit pharmaceuticals. As examined above, the multitude of complex legislation that is applicable and administered by different entities within any government is an enormous challenge when aiming to combat counterfeiting activities. Thus, the first challenge for most governments, whether developed or developing, is to ensure proper coordination and communication between the various entities involved in enforcement activities. Another significant challenge is that not all jurisdictions have put in place agencies for monitoring, tracking and combating counterfeiting activities in a coordinated manner, both nationally and internationally. For example, the Argentinean “Division Fraude Marcario” (i.e. Fraudulent Marks Division) was only created at the beginning of 2006. The Italian government is intending to establish a Task Force in order to monitor and evaluate the phenomenon of counterfeited pharmaceuticals, to coordinate activities of diverse entities and to establish countermeasures. International efforts at coordination include work by the World Custom Organisation, Interpol, the establishment of the Pharmaceutical Security Institute and the World Health Organisation’s IMPACT. The limited or lack of resources, whether human or financial, for enforcement objective is another key obstacle to redressing the problem. Of 841 arrests reported in 2005, 230 were made at points of distribution and 214 at the point of sale (PSI 2006). Such data provides some guidance to enforcement authorities for allocating their limited resources in the most effective manner. Enforcement also involves the collaboration between private sector investigations and law enforcement authorities.

5.71 Policing of Internet pharmacies is a complicated activity, and generally involves cooperation of national and international law enforcement agencies and the private sector. For example, the US FDA has undertaken measures to identify and shut down fraudulent and illegal Internet pharmacies. Its approach is to carry out criminal investigations, that can involve arrests, and to issue warning letters to both domestic and foreign pharmacies. In 2005, the US Drug Enforcement Agency concluded an investigation which dismantled a large online counterfeit prescription drug ring. This operation shut down 200 illegal Internet pharmacies. Similarly, states and state medical boards are also aiming to shut down illicit Internet pharmacies. For example, in 2002, New York prosecutors charged individuals and companies for making and selling counterfeit ‘Viagra’. The investigation uncovered a distribution ring that stretched from fake pill mills in China and India to Internet sellers in Nevada and Colorado” (GlobalOptions 2003). Pharmacy boards as well as medical professional associations have also begun to take disciplinary actions against Internet pharmacies. In Canada, where the dispensing of pharmaceuticals products is regulated by provincial Colleges of Pharmacists, the policy of the Ontario College prohibits Canadian Internet pharmacists from entering into agreements for the purpose of co-signing or re-writing prescriptions for out-of-country residents. In 2002, the Ontario College of Pharmacists filed charges against an Internet pharmacy, “The Canadian Drug Store Inc.”, for unlawfully operating an unlicensed pharmacy (GlobalOptions 2003).

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72 According to discussions with authorities.

73 Distributor reports wholesalers and individuals arrested at warehouses where counterfeit goods were being stored.
5.72 In order to address the issue of counterfeit sales of medicines over the Internet, some countries have established or are considering establishing mechanisms for ensuring safe and efficacious Internet pharmacies. The National Association of Boards of Pharmacy (NABP) which represents the state boards of pharmacy within the USA, eight Canadian Provinces, two Australian States, New Zealand and South Africa, developed the Verified Internet Pharmacy Practice Sites (VIPPS) program in 1999. This voluntary program certifies pharmacies that comply with the licensing and inspection criteria of their state and each state to which they dispense drugs according to the NABP criteria. The VIPPS program provides a way for patients to verify the authenticity of Internet sites selling drugs but has a limited number of registered sites (12 sites in May 2006), which may not be known to the public. In 2006, the Royal Pharmaceutical Society of Great Britain prepared a Guideline that gave comprehensive advice for pharmacists who provide Internet pharmacy services.

5.73 The private sector also carries out investigations and undertakes legal actions against fraudulent and illicit Internet websites. Often an entity will register numerous domain names bearing similar or misleading information to attract patients. For example, unauthorised sites advertising ‘Viagra’ include http://1-viagra.com/; http://buy-viagra-herbal-viagra-alternatives.com/; http://viagra-order-online.com/. Companies use the Uniform Domain-Name Dispute Resolution Policy (UDRP) process of the ICANN in order to deal with unauthorised websites that use trademark protected terms, such as ‘Viagra’ (OECD Survey 2005). This administrative process provides efficient, relatively inexpensive, as compared to litigation costs, and fast resolution of the abusive use of a domain name. Nevertheless, its effectiveness is limited since it applies only to top-level domain names incorporating trademarks and does not prevent the registration of additional domain names. e-Bay, the Internet trader, has in place a programme called VeRO (“Verified Rights Owner), through which it implements its “notice and take down” policy (e-Bay 2006). As well, they permit sales by e-pharmacies of pharmaceuticals only if these are licensed.

Securing the Distribution/Supply Chain

Government action

5.74 Governments are undertaking a number of measures to better secure the distribution/supply chain for pharmaceuticals. Each government is employing a combination of legislative, regulatory and technological approaches. For example, in Europe there are the Guidelines on Good Distribution Practice Medicinal Products for Human Use and in the United States, both at the national and at the state level there is legislation pertaining to the supply chain (i.e., the pedigree requirements). In Europe, a number of countries, such as Italy, Belgium, and Spain, have put in place or are putting in place systems for better securing the supply chain. Although each system is different, the idea is that pharmaceuticals may be tracked from manufacturing through distribution to dispensing. A positive aspect of these systems is that they permit quite comprehensive tracking of pharmaceuticals throughout the supply chain in the given jurisdiction. However, some have expressed concerns that if each country within Europe were to adopt a unique system, this could result in a fragmented market and could involve increased costs for manufacturers (EFPIA 2006). Concern has been expressed that some of these systems may affect patient privacy.

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74 The Domain Name System (DNS) helps users find their way around the Internet. Every computer on the Internet has a unique address called its "IP address" (Internet Protocol address). Because IP addresses (which are strings of numbers) are hard to remember, the DNS allows a familiar string of letters (the "domain name") to be used instead. So rather than typing "192.0.34.163," you can type "www.icann.org."

To illustrate the functioning of these types of systems, the Italian approach will be briefly outlined. In order to combat fraud and counterfeiting, Italy will implement tracking, through the “bollino” ID system, which will collect and store information in a Central Data Base. This approach is possible since within Italy pharmaceuticals are almost all pre-packaged. The national mint (INZP) produces the unique “bollino” labels which are sent to the pharmaceutical producer/supplier. Each pharmaceutical will be affixed a “bollino” displaying a) the AIC code of the drug; b) the product’s denomination; c) the AIC owner; and d) the progressive identification of the single package – unique identifier. The “bollino” will enable the tracking of each package from the manufacturer down to the point of dispensing.

Figure 5.11 Bollino System

Source: Bergamaschi 2006.

Private sector action

In light of the complexity of the distribution and supply chain in many jurisdictions and the potential this has for the entry of counterfeit pharmaceuticals, some manufacturers have adopted new approaches to the distribution of their products. For example, in the UK, Pfizer has announced that it will no longer distribute through its major wholesalers (Hawkes 2006). It decided that it will distribute its products to pharmacies and dispensing doctors with the aid of a single delivery company, UniChem. This will guarantee at least one source of authenticate products to pharmacies and hospitals. This measure will have no effect on prices (Hawkes 2006). Similarly, Johnson and Johnson decided that it will only sell to distributors who agree to its contractual terms, which stipulate that they can not purchase from other distributors and re-distributors. Eli Lilly and Company is taking similar action to enhance its supply chain through wholesale contracts, monitoring and auditing the supply chain (Shaw, 2005).

Conclusion

The counterfeiting of pharmaceuticals is a global concern that has serious implications for patients and consumers, governments, companies and international organisations. Although the establishment of precise figures is extremely difficult, this activity appears to be on the rise. While it is first and foremost a global public health problem, counterfeiting of pharmaceuticals also has significant implications for intellectual property rights. As a global concern, it needs to be addressed on a global scale. In order to properly address this problem, it requires the collaboration and involvement of all of these parties. Moreover, it is a multi-factorial and multi-dimensional problem that requires simultaneous and coordinated actions from all of these parties. Some of the categories in which action needs to be taken in order to redress the problem of counterfeit and pirated pharmaceuticals include the use of legislative and
regulatory mechanisms, the use of technology, the strengthening of enforcement mechanisms, including through the availability of appropriate resources and international collaboration, education of and communication with the public, and through more stringent practices/control of the supply/distribution chain. Each of these actions may involve one or more actors involved in the manufacture, distribution and regulation of pharmaceutical products.
**Drivers to production and consumption of counterfeit pharmaceuticals**

<table>
<thead>
<tr>
<th>Production</th>
<th>Characteristic</th>
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<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit Profitability</td>
<td>Profit margins can be very large. While the unit cost and therefore profitability varies depending on the amount of genuine active ingredient used, on the sophistication of the packaging and labelling, and on the number of products sold, there is still a significant profit margin to incite counterfeiters, even in developing countries where the price of pharmaceuticals are much lower.</td>
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<tr>
<td>Market Size</td>
<td>Larger market in jurisdictions where regulation and enforcement is weak. There is a much larger market for counterfeits in jurisdictions where regulation and enforcement is weakest, such as many developing countries. There is a much smaller market for counterfeits in jurisdictions with strong regulation, which make penetration more difficult, as is the case for most developed countries. However, no country is immune to counterfeit pharmaceuticals, irrespective of its level of development.</td>
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<tr>
<td>Genuine Brand Power</td>
<td>Strong in developed countries. Much less strong in developing countries. In developed countries, the brand of the pharmaceutical will be very strong, especially for blockbuster and prescription lifestyle drugs. However, in developing countries, as the most commonly used pharmaceuticals are essential medicines, the brand is less important.</td>
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<tr>
<td><strong>Production, distribution and technology</strong></td>
<td></td>
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<tr>
<td>Production Investments</td>
<td>Investment required varies with sophistication. The level of investment will vary according to how sophisticated the counterfeit is to be. Investments are required for numerous elements including for purchasing bulk ingredients, to produce the counterfeit, the packaging, the labelling and for access to the distribution system. This is even more significant is there is a trans-border element. However, the investment required to produce a crude counterfeit and distribute it locally can be quite modest.</td>
</tr>
<tr>
<td>Technology</td>
<td>Technology not excessive barrier. Technology to produce counterfeit products, packaging, and labels are for the most part rather easily accessible. Copying more advanced technologies is a challenge/obstacle for a relatively short period of time.</td>
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<tr>
<td>Logistics</td>
<td>Logistics are a complicating factor, especially in heavily regulated markets. Internet facilitates the penetration of counterfeits even in heavily regulated jurisdictions. It is much more difficult to bring a product to a physical market that is heavily regulated, as is the case of developed countries. The penetration of counterfeits in jurisdictions with weak regulation and enforcement is much easier. The Internet facilitates the penetration of counterfeits into markets, whether developed or developing.</td>
</tr>
<tr>
<td>Marketing and Sales of Products</td>
<td>Quite difficult to penetrate supply chain in developed jurisdiction. More easy to penetrate supply chain in developing countries. Internet provides parallel supply chain, greatly facilitating penetration. It is quite difficult to penetrate the legitimate distribution channels in heavily regulated jurisdictions, such as those of developed jurisdictions. More easy to penetrate distribution channels in jurisdiction with weak regulation, such as in</td>
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</table>
**PRODUCTION CHARACTERISTICS**

developing countries. The Internet creates the opportunity for separate distribution channels not requiring the penetration of a regulated supply chain.

**Ability to Conceal Operation**

Moderately more difficult in developed jurisdiction, easier in developing jurisdictions.

The ability to conceal a counterfeit pharmaceutical operation is easier in jurisdictions with weaker regulatory systems, where resources and monitoring activities are lowest. The ability to conceal is more difficult within jurisdictions with strong regulatory frameworks and the resources to investigate.

**Ability to Deceive**

Deception very necessary.

The key element to a successful counterfeit pharmaceutical is that it is accepted by the consumer as genuine. Thus, the counterfeit must be sophisticated enough to pass off for the genuine product, packaging, and labels. The more sophisticated the genuine product, packaging and labelling, the more costly it may be for the counterfeiter to reproduce.

**Institutional Characteristics**

**Risk of Discovery**

Higher risk of discovery in heavily regulated jurisdiction; moderate rate of detection in jurisdiction with weak regulation.

In heavily regulated jurisdictions, the risk of detection is higher, especially when there are important resources allocated to the detection of counterfeiting activities. However, in many jurisdictions where the regulatory framework is weaker and where there are no or limited resources for investigating counterfeiting activities, the risks are much lower. The risks are also lower for activities carried out over the Internet.

**Legal and Regulatory Framework**

Extremely complicated framework

The legal and regulatory framework for pharmaceuticals is extremely complicated involving a multitude of diverse fields, including regulatory approval (e.g., drug administration, quality control, pharmaceutical distribution, importation, manufacturing, marketing, patient information, licensing practices), criminal and penal activities (e.g. contraband activities, racketeering, endangering life), intellectual property (trademark, patent, copyright, industrial design), customs and border activities, consumer protection, etc. Some jurisdictions have a weak legal and regulatory framework. Often, even where legislation exists, prosecution is difficult for a multitude of reasons.

**Enforcement**

High if detected in developed jurisdictions. Weaker in developing jurisdictions.

Enforcement action will be taken against detected counterfeit activities in developed jurisdictions. Enforcement has been considered to be much weaker in developing jurisdictions.

**Penalties**

Penalties deter where imposed.

The attribution of penalties to detected counterfeiter acts as a deterrent. However, the challenge is to ensure that appropriate penalties are provided for in the legal and regulatory framework and that they are attributed to the counterfeitors.

**CONSUMPTION CHARACTERISTICS**

**Product**

Developed jurisdiction, no price difference. Developing jurisdictions and Internet significantly lower price.

**Price**

In developed countries, the objective is that the counterfeit pharmaceutical enters the legitimate supply chain, so the end price to the consumer at the pharmacy will...
be the same. However, the counterfeiter profits by having cheap production costs, and so the profits realised are significant. In developing countries, the lower price of counterfeits, coupled with the lack of knowledge of the difference between the counterfeited and genuine products, increases the propensity to purchase. As

Internet:
The lower prices advertised on the Internet sites increases the propensity to purchase, especially as these products are seen as genuine.

<table>
<thead>
<tr>
<th>PRODUCTION CHARACTERISTICS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality and Nature of Product</td>
<td>Critical element – expectation of same therapeutic effect. Whether in developed or developing jurisdictions or purchased over the Internet, the expectation is that the medicine will have the therapeutic effects that it is intended to have.</td>
</tr>
<tr>
<td>Ability to conceal status</td>
<td>Not an issue for physical distribution. Easy to conceal for Internet purchases. For the physical distribution, there is no issue. For Internet purchases, once products in hand, the ability to conceal is relatively easy, especially since the product is consumed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONSUMER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health &amp; Safety Concerns</td>
<td>Extremely high. The health and safety concerns of consumers with regards to the consumption of counterfeit pharmaceuticals are extremely high. The challenge is that many consumers are not informed of what constitutes a counterfeit and the associated health hazards and are unable to detect counterfeits.</td>
</tr>
<tr>
<td>Personal Income</td>
<td>Higher prices and/or lower incomes create higher incentives for consumers to seek counterfeits. In jurisdictions where medicines are available at accessible prices to the population, there are less incentives for consumers to seek alternative sources of medicines and therefore expose themselves to counterfeit medicines. In jurisdictions where incomes are low and/or the price of medicines is high, there are higher incentives for consumers to seek alternative supplies of pharmaceuticals, thereby increasing their risk of purchasing counterfeit medicines.</td>
</tr>
<tr>
<td>Personal Values</td>
<td></td>
</tr>
<tr>
<td>Institutional</td>
<td>Very moderate for Internet purchases A consumer seeks to know of counterfeits in the legitimate supply chain so as to avoid them. The likelihood of detection for the consumer who purchases over the Internet is very small. If the Internet purchase crosses borders, the risk of detection is slightly higher.</td>
</tr>
<tr>
<td>Risk of discovery</td>
<td>Very low Very low risk of prosecution of consumers.</td>
</tr>
<tr>
<td>Risk of prosecution</td>
<td>Varies, but low risk Depending on the legislation, the applicable penalties may be the same as for the counterfeiter. However, as seen, there is very little risk of prosecution.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Developed jurisdictions, physical acquisition quite difficult. Developing jurisdiction, physical acquisition is much easier. Internet acquisition is easier. Acquisition of counterfeits is quite difficult in heavily regulated jurisdictions.</td>
</tr>
<tr>
<td>Availability and ease of acquisition</td>
<td></td>
</tr>
<tr>
<td>PRODUCTION CHARACTERISTICS</td>
<td>especially since they are not sought out. In jurisdictions with weak regulatory frameworks and over the Internet, acquisition is easier.</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Socio-economic factors</td>
<td>Education and awareness play an important role.</td>
</tr>
<tr>
<td></td>
<td>The less educated and the less informed are at greater risk of purchasing and using counterfeits. Irrespective of the level of development, education and awareness play an important role in deterring the purchase and use of counterfeits.</td>
</tr>
</tbody>
</table>
References


Business Insights (2005a), Pharmaceutical Anti-Counterfeiting Strategies, Business Insights Ltd.


Hawkes, N., “Drug Giant will sell direct to beat the Counterfeiters”, Timesonline, 5 October 2006.


TAXUD (2005), Statistics Recorded at the External Borders of the EU, 2005.


CHAPTER 6. TOBACCO SECTOR

General description

6.1 This sector study covers the international tobacco industry, focusing on cigarettes, as these constitute by far the greatest proportion of tobacco products, as well yielding the greatest volume of information.

6.2 The tobacco industry is almost unique, in that taxes constitute the major component of the final retail cost price, which makes tobacco, and especially cigarettes, lucrative for smugglers.

6.3 The same profit potential for smugglers of counterfeited tobacco products of course also exists for smugglers of genuine goods, and they share many characteristics, such as transport and distribution channels and the involvement of organised crime. As a consequence, it is frequently impossible to differentiate between them, as data sources may mix them up; for example, customs authorities would probably not normally differentiate between smuggled genuine and smuggled counterfeit cigarettes. While every effort has been made to differentiate between these two quite different illicit activities, this has not always been possible, and as a consequence some information may not be totally reliable.

6.4 From comments made by industry respondents to the OECD survey indicating that consumers are reluctant to knowingly buy counterfeited cigarettes, it has also been assumed that the entire range of counterfeited tobacco products are intended to deceive the consumer.

Types of infringement

6.5 Abuse of trademarks (brand names) is by far the most common form of intellectual property infringement in the tobacco sector. There may also possibly be instances of patent or design infringement, but these would be rare. Copyright infringements do not apply to this sector.

Products most affected

6.6 The products most affected by counterfeiting are cigarettes. They combine certain characteristics that make them very convenient for counterfeiters, such as being consumed in very large quantities, they are small and do not require any special transportation or storage and they are capable of being easily produced on a large scale with relatively small investments. Together, these characteristics make them hard to track, which is likely to give the counterfeiter a perception of low risk. Other tobacco products (such as cigars, roll-your-own tobacco and snuff) may also be counterfeited, but these would be very small compared to cigarettes (about 5% according to one industry respondent).

6.7 The market for cigarettes is very large, with the World Health Organization estimating that some 5.5 trillion are consumed every year (World Health Organization, 2002).
The importance of excise and other taxes

6.8 Tobacco products share with alcohol the distinction of being unique consumer products because the imposition of very high excise and other taxes. These taxes can vary widely. An industry estimated that taxes represent around 50-60% of retail price of cigarettes, but in some cases these can constitute up to 70% - 80% of those prices (VicHealth, n.d. and World Bank, 2001).

6.9 This means that compared to most other products production costs and brand values play a relatively minor part in the retail price of a pack of cigarettes, and this creates the situation where counterfeiters can generate very high profit margins by not only producing cheap fakes, but also by avoiding all of the tax burden.

6.10 For example, in the United States, where a typical carton of cigarettes retails for around USD 35, as well as a Federal tax of USD 3.6 per carton, states impose per-carton taxes that range from USD 0.70 in South Carolina to USD 24.60 in Rhode Island76 (Federation of Tax Administrators, 2006, GAO, 2004), which highlights the potential profit for smugglers, especially as a carton of counterfeited cigarettes would cost around USD 3 to produce.

6.11 Based on these numbers, each container that is seized in the United States (ca. 8.5 mill sticks) has a street value of USD 1–1.5 million yet the cost to the manufacturer of producing the counterfeit product in the container is about USD 120 000–130 000 plus around 25%–30% shipping costs (in the example of China as the source market). It is reported that every day 8–10 containers of counterfeit cigarettes produced in China are unloaded from ships at the Los Angeles port, and enter the United States undetected under false import documentation (Chow, 2003).

6.12 As another example, in the UK 86% of the retail price of cigarettes are taxes (National Center for Chronic Disease Prevention and Health Promotion, 2006), and with similar production costs as in the case of the US when China is again taken as an example of a source country.

6.13 In the EU in general, the overall tax incidence on cigarettes, including VAT, is typically a little lower than in the UK, between 70% and 80% (International Tax & Investment Center, 2003).

Modes of operation

6.14 In the vast majority of countries and territories, cigarette manufacturers do not sell cigarettes directly to the public. Instead, they sell cigarettes in bulk quantities to distributors, wholesalers, or in some cases government monopolies, who then pass them down the distribution chain to consumers. Typically, the number of cigarettes sold is reduced at each step of the chain, as the initial bulk shipment of cigarettes is divided and subdivided until it reaches the retailer, who then sells cigarettes in either cartons or packs to the individual consumer (Phillip Morris International, 2004). This complex network may lead to a lack of transparency and creates loopholes for counterfeiters to infiltrate the supply chain with their fake products.

6.15 According to survey respondents, a typical transaction involves production in China for export to other markets, would involve the products being manufactured to order, with orders placed by traders based overseas who control the distribution and sale of the product in the target market, and who would finance the deals and reap the majority of the profits.

6.16 In the case of counterfeits produced outside China (e.g. Paraguay, Middle East) it is often the owners of the factories who control the business and who take the greatest share of the profits.

76 The median for all states is USD 8.00
6.17 With regard to the supply of inputs, in the case of China it is usually brokers who provide the non-tobacco materials, with tobacco apparently sourced from local tobacco farmers who produce more than their state allocated quotas. Factories outside China often produce both legal and counterfeits together (sometimes described as production overruns). These factories source their materials directly from the same suppliers who supply legitimate manufacturers with their input requirements for their legitimate volumes providing “cover” for the counterfeit volumes.

6.18 Transport of counterfeit is usually by container, using the same distribution systems as legitimate products with the products either falsely declared, or shipping documents changed prior to arrival at their final destination to facilitate smuggling. One respondent claimed that in the case of with the shipment often being miss-declared or trans-shipped through free trade zones to complicate document trails. Large scale counterfeiters who transport counterfeit cigarettes via sea or land, are now increasingly using transit or trans-shipment points in geographically diverse ports or free trade zones, as a means of disguising the nature of the product and complicating the tracking and detection of the shipments.

6.19 As the product approaches its target market the load is then de-stuffed from the container and broken up into smaller units for onward transportation by a variety of means of transport. This also reduces the risk and impact of any losses incurred at the points of entry.

6.20 As some respondents noted, these smuggling operations also utilise sophisticated disguising techniques, such as innocuous top loadings and fake documentation, to disguise the true nature of their cargoes.

6.21 One respondent also suggested that all of these actions are intended to divert the attention of customs authorities, who may have doubts about their jurisdictional rights over transhipments and so may not feel compelled to investigate cargoes destined for destinations outside their own borders.

6.22 As a general observation, the transport and distribution networks for major smuggling operations are highly organised, secure and difficult to detect, often because of the participation of organised crime in the movement and sale (but rarely in the production) of the counterfeited products, which provides the sophisticated financial and logistical support that make the networks difficult and dangerous to infiltrate.

6.23 These organised criminal groups, which often already have established trading networks for other commodities such as drugs, are now turning to counterfeited cigarettes due to the relatively lower risks and penalties, and the convenient use of their pre-existing smuggling and distribution networks (Chow, 2003). In addition, unlike narcotics and other illicit substances that must constantly be hidden before sale to the consumer, counterfeit cigarettes, once smuggled into the target market, can be moved relatively openly, thus reducing the cost of warehousing and distribution.

6.24 One respondent stated that criminal organisations with entities active in the United States, China, and Hong Kong. China are known to be very active in smuggling counterfeited cigarettes. Reportedly, the primary target market of the criminal organisations seem to be high tax and volume markets within the EU - with the United Kingdom market appearing to be the most attractive.

6.25 Also, industry noted the substantial use being made of courier and airmail parcel post services to smuggle counterfeit tobacco products into foreign markets. The high retail value of the product (because of high taxation) makes the smuggling of even relatively small volumes of product sufficiently profitable for individuals to accept the risks.

6.26 In some localities, particularly where the level of excise taxes on different sides of the same border vary, there can be an incentive for individuals to carry small quantities of cigarettes across the border to sell them on the other side. While this small scale smuggling (of both genuine and counterfeit
tobacco products) is seen by the industry as being of lesser concern than large-scale, organised smuggling, it can nevertheless constitute considerable volumes due to the high number of participants.

6.27 In addition, some respondents noted that the Internet has clearly become a popular mechanism for consumers purchasing tobacco products, as this is a convenient, and increasingly significant, way of circumventing taxes. Moreover, the sale of counterfeited tobacco products over the internet provides counterfeiters with a vehicle for expanding sales to minors. Many of the industry respondents explicitly noted that they have not authorised anyone to sell tobacco products on the Internet on their behalf, and are not selling themselves.

Factors that drive the production and consumption of counterfeited tobacco products

6.28 Each product sector has its own peculiar characteristics that will in part determine and shape those factors that drive production and consumption, and the recognition and understanding of these drivers can provide insights on the propensity for that category of goods to be produced. In turn this may provide some guidance on the likelihood that such products can be found in the market place and may support statistical data collected through customs interdictions, police raids on production and retail facilities, the results of legal action and other market based data. Moreover, the factors could provide important insights into how surveys and economic modelling could best be used to improve measurement.

6.29 In the summary table below (Table 6.1), the drivers that are considered to apply in the tobacco sector have been judged on whether, and to what extent, they are favourable or unfavourable for the production and consumption of these counterfeited goods.

6.30 A more detailed explanation of the derivation of these propensity factors can be found in the Attachment to this sector analysis.

Table 6.1 Propensity to produce or consume counterfeited tobacco products

(See Attachment for more detailed explanations)

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECTS ON PROPENSITIES TO CONSUME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>Very high, especially if taxes are avoided.</td>
</tr>
<tr>
<td>Market size</td>
<td>Huge mass market around the world.</td>
</tr>
<tr>
<td>Genuine brand power</td>
<td>Tobacco brands (especially cigarettes) are well known.</td>
</tr>
<tr>
<td><strong>Production, distribution and technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production investment</td>
<td>Moderate investments needed, production costs per cigarette are low</td>
</tr>
<tr>
<td>Technology</td>
<td>No investments in sophisticated technology necessary.</td>
</tr>
<tr>
<td>Logistics</td>
<td>Tobacco products do not need special handling and can be transported using normal means, however, smuggling would be more difficult</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>Products can be easily sold in a variety of outlets. The Internet is becoming increasingly important.</td>
</tr>
<tr>
<td>Ability to conceal operations</td>
<td>Overall, not too difficult.</td>
</tr>
<tr>
<td>Deception</td>
<td>Easy to deceive consumers in appearance if not taste.</td>
</tr>
</tbody>
</table>

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Institutional characteristics

<table>
<thead>
<tr>
<th>Risk of discovery</th>
<th>Potentially high, but appears to be acceptable to counterfeiters.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforcement</td>
<td>Risk of prosecution and civil action is high.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Potentially heavy fines and jail sentences.</td>
</tr>
</tbody>
</table>

FOR CONSUMERS

EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS

Product Characteristics

<table>
<thead>
<tr>
<th>Price</th>
<th>Low prices a major factor, especially in low income markets.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality and nature of product</td>
<td>Generally, quality is such that consumers may not be able to make comparisons.</td>
</tr>
<tr>
<td>Ability to conceal status</td>
<td>Concealment that products are counterfeits could be relatively easy in unsophisticated markets.</td>
</tr>
</tbody>
</table>

Consumer Characteristics

<table>
<thead>
<tr>
<th>Health risks</th>
<th>Potentially very high, and may deter consumers when products known to be counterfeits.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety concerns</td>
<td>None obvious.</td>
</tr>
<tr>
<td>Personal values</td>
<td>Indications are that consuming counterfeit cigarettes not considered to be a serious crime.</td>
</tr>
</tbody>
</table>

Institutional Characteristics

<table>
<thead>
<tr>
<th>Risk of discovery</th>
<th>Minimal, as targeting consumers is an ineffective form of response for governments and industry.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of prosecution</td>
<td>Little chance of prosecution of normal consumers.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Very low, even if prosecuted.</td>
</tr>
<tr>
<td>Availability and ease of acquisition</td>
<td>Freely available and easily acquired, including increasingly through the Internet.</td>
</tr>
</tbody>
</table>

6.31 The analysis of factors that drive the production of counterfeited tobacco products indicates that it is a high risk enterprise, especially if they are smuggled, but that the rewards, in the form of potentially very high profits, appear to be more than sufficient to encourage extensive counterfeiting activity.

6.32 The greatest profits are available to counterfeiters if they successfully smuggle their products into the market, as this allows them to avoid the very high taxes that normally apply to tobacco products, and which can consist of up to 70% - 80% of the final retail price of tobacco products.

6.33 From the consumer’s perspective, the principal issue is that the majority of tobacco products are manufactured to deceive the purchaser, and most buyers would not be aware that they had purchased a counterfeit product. The ability of counterfeiters to produce tobacco products that superficially are virtually indistinguishable from the original, and the complexity in definitively establishing that it is a fake product (probably requiring a chemical analysis), makes this one of the more difficult products to be identified by consumers.

6.34 For consumers who willingly purchase counterfeit cigarettes, there is little risk (apart from the obvious potential health risks) from their purchasing decisions, as they are unlikely to be apprehended and prosecuted for the purchase of small quantities of these products.

6.35 A significant and increasing role of the Internet for both producers and consumers should be noted.
Magnitude, scope and trend of infringements

6.36 Although the smuggling of genuine cigarettes is not the subject of this analysis, it is worth exploring the interaction between them, and how the proportion between smuggling of genuine cigarettes and counterfeited cigarettes has developed in recent years, as they are quite clearly linked.

6.37 During the late 1990s, manufacturers of genuine products, working with governments, increased controls over distributors and retailers, thereby making less product available for smuggling. The smugglers responded by increasing production and trafficking of counterfeited products, as these would not be captured by the more stringent regulations affecting the genuine items. The ease with which counterfeiters have access to state-of-the-art cigarette manufacturing and printing facilities to faithfully reproduce packaging materials reportedly has facilitated the growth in the counterfeit products.

6.38 Although the problem of shifting emphasis to counterfeited products is already significant, the industry believes that the situation for cigarettes will worsen, and overall the threat to the tobacco industry has probably not altered greatly.

6.39 The perceived shift in illicit cigarette trading from original to counterfeits is supported by Customs statistics and other studies. In 2000/01, illicit tobacco was estimated to account for 25% of all cigarette sales in the United Kingdom, with counterfeits accounting for 5% (UK House of Commons, 2002). In 2002, Customs & Excise in the UK seized 2.6 billion cigarette sticks, of which 2.2 billion were smuggled genuine products and only 390 million counterfeits (15%). However, in 2004 of 1.8 billion sticks seized by UK Customs & Excise, 828 million were genuine items, while 972 million were counterfeits (54%) (The Organised Crime Task Force, 2006).

6.40 A more recent study in the UK (HM Treasury, 2006) indicated that of all cigarettes seized by Customs & Excise, the proportion that were counterfeited had risen from 15% in 2000/02 to 48% in 2005/05.

6.41 A similar shift occurred in the United States. By 2003 seizures of counterfeit products substantially exceeded those of genuine cigarettes, estimated to be USD 45.8 million and USD 5.1 million respectively (United States General Accounting Office, 2004).

6.42 US Customs seized cigarettes worth USD 9.6 million (domestic value) in the FY77 2005 (USD 24.2 million in FY 2004), which is about 10% of overall seizures (17% in FY 2004) (US Customs and Border Protection and US Immigration and Customs Enforcement, Department of Homeland Security, 2006). Interestingly, cigarette seizures were zero in 1998 and USD 0.3 million in 1999 (United States General Accounting Office, 2004), which further supports the notion of a rapid increase in counterfeiting in the late 1990s.

6.43 In the EU, customs statistics show that around 8.3 billion cigarettes were seized in 2004, a rise of 25% compared to 2003 (European Union, Taxation and Customs Unit, 2005). Statistics for 2005 are not available; nor are breakdowns between original and counterfeited products.

Centres of counterfeit production and distribution

6.44 With respect to the origin of counterfeit cigarettes, EU Customs’ data reveals that in 2004 around 47% of all items seized came from China, 7% from the UAE and 6.5% from Gambia (European

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77 FY: fiscal year; in the US the fiscal year 2005 starts Oct. 1, 2004 and ends in Sept. 30, 2005
Union, Taxation and Customs Unit, 2005). Statistics for the FY 2003 are not available, neither are statistics for FY 2005.

6.45 As reported by US Customs, the main source country for imported fake cigarettes also is China with USD 9.5 million in domestic value in FY 2005 (USD 22.1 million in FY 2004, USD 33.2 million in FY 2003), which is about 99% of the overall amount of items seized (91% in FY 2004, 80% in FY 2003) in terms of value (US Customs and Border Protection and US Immigration and Customs Enforcement, Department of Homeland Security, 2006).

6.46 Industry experience, as reported by respondents to the OECD survey, tends to support the quantitative data from EU Customs, suggesting that more than 50% of the overall counterfeit cigarette production takes place in China, where industry estimates that around 100 billion counterfeit cigarettes are produced each year, with considerable domestic consumption.

6.47 The following map (Figure 6.1) shows some known transportation patterns of counterfeited tobacco products originating in China.

Figure 6.1. Transportation Patterns

Transportation and Shipment

Note: See footnote 14, page 22.

6.48 While China has been identified as the largest producer of counterfeited cigarettes it is not alone, and other economies were identified by industry respondents as being involved in counterfeiting activities. For example, in the Asian region in 2005, Customs agents in South Korea and Chinese Taipei seized shipments of imported counterfeit cigarettes valued in the millions of dollars. Criminal syndicates in North Korea are also believed to be producing cigarettes, and Thailand, Vietnam and Malaysia, Paraguay and the Middle East were also mentioned by survey respondents.

6.49 Some respondents also noted that there has been an increasing shift from the unauthorised use of surplus tobacco manufacturing capacity by contracted manufacturers for sale in the grey markets in Central and Eastern Europe (Russia, Albania, Latvia, Ukraine were named), to the export of both skilled personnel
and machinery to major EU markets in order to set up illegal manufacturing facilities inside those markets. Thus, the number of illegal factories within the EU borders producing counterfeit cigarettes has been increasing (Germany, Poland, Netherlands, the Czech Republic and Greece were especially named).

6.50 This strategy reduces the risk for counterfeiters by minimising transport, avoiding customs barriers and facilitating direct access to the illegal distribution networks inside the markets. A very recent example was the raid of a manufacturing facility in Salzburg, Austria, where the tax losses resulting from the production of counterfeited cigarettes in that facility were estimated at EUR 50 million (Voralberg Online, 2006).

6.51 This shift is also occurring in various countries in the Middle East (Iran, Iraq, UAE), where enforcements of IP rights are reportedly difficult to initiate.

6.52 Numerous counterfeiting factories have also been discovered in various countries throughout Latin America, and especially Paraguay, Venezuela, Uruguay and Brazil (Philip Morris International, 2004). For instance, illegal cigarettes (i.e. counterfeited and smuggled genuine products) now represent 34% of all cigarettes sold in Brazil each year, having jumped from 5% of the market in 1991 and 20% in 1995 (Brazil – US Business Council, 2003).

6.53 Respondents also stated that the main target markets for counterfeit tobacco products are the EU and the US. As noted earlier, this is mainly due to the large potential profit margins for counterfeiters in these regions due to the high excise taxes imposed on tobacco products. However, apart from these main targets it is likely that most countries and territories would to some degree be the target for counterfeited cigarettes.

**Effects of counterfeiting in the tobacco products sector**

6.54 With respect to financial losses due to the counterfeiting of cigarettes, the most important factor is lost sales, since cigarettes are generally deceptive goods and therefore each counterfeited item sold can be considered a lost sale for the genuine manufacturer. Also to be considered are costs of anti-counterfeiting operations, development of new methods of manufacture to minimise opportunities for imitation and to provide secure product recognition, and associated personnel costs. One respondent estimated the cost to company of anti-counterfeiting operations (not including personal costs) to be around USD 8 million per year.

6.55 Another respondent estimated losses each year for his company due to counterfeiting of around USD 200 million. Industry estimates for the loss in revenue by brand owners varied widely, with the lowest of these estimates being around USD 800 m.

6.56 As to market share, one firm indicated that it viewed counterfeit products as its 4th or 5th biggest competitor in the world market, while another estimated counterfeited cigarettes to represent approximately 2-3% of total global consumption. From a narrower perspective, a UK respondent estimated that counterfeited cigarettes accounted for around a 10% loss of market share in the UK.

6.57 As far as loss of company image is concerned, counterfeit cigarettes can have serious quality problems and except in the appearance of the packaging may bear little resemblance to genuine products. Because counterfeits are marketed under well-known brand names, the consumer who smokes a counterfeit product may be expected to associate this poor quality with the brand, and this could be extremely harmful to the image and reputation of genuine brands, as well as resulting in lost revenue if the consumer switches brands.
6.58 In extreme cases, these effects may lead to the closure or consolidation of manufacturing facilities, leading to job losses and downstream effects on local economies and government revenue.

6.59 At the government level, respondents estimated financial losses for governments worldwide (from loss of excise revenue) to be around USD 2 billion.

6.60 Finally, consumers suffer because they are deceived into buying an inferior copy of the legitimate product, which apart from anything else may also present additional serious and unforeseen health risks.

6.61 While there is no definitive evidence available, some researchers have detected signs that counterfeited cigarettes have higher (and sometimes considerably higher) levels of tar, nicotine and carbon monoxide emissions. Therefore, whatever health implications are associated with the use of tobacco, there are likely to be greater in the case of counterfeited cigarettes compared to known brands. Further research into this aspect of the production of counterfeited tobacco products could yield more reliable data.

6.62 Further, the generally lower cost of counterfeited cigarettes is likely to encourage increased consumption, especially amongst financially disadvantaged sectors of society and the young. Apart from anything else, cheap counterfeited tobacco products cut across efforts of health authorities to blunt the consumption of tobacco through high taxation.

6.63 In addition, research has shown that heavy metal concentrations (especially cadmium and lead) in the tobacco of counterfeit cigarettes are much higher than in the genuine counterparts. The research identified potential harmful consequences to human health from these heavy metals and concluded that the typical counterfeit product adds significantly to the risks normally associated with smoking.

6.64 However, the research also noted that it is inconceivable that counterfeiters would deliberately add heavy metals to their products since there is no obvious reason to do so, and noted that these heavy metals, possibly derived from cheap, unsuitable fertilisers may contaminate tobacco crops (Stephens et al., 2005). From here, it is not a step too far to speculate that as these contaminated crops would then not be purchased by the major tobacco companies, they could become an attractive proposition for counterfeiters. In any event, whether intended or not, these impurities when present would add to the health risks faced by smokers.

Countermeasures taken

6.65 Industry has reported that it has turned its efforts towards tracking down cigarette counterfeiters at the supply level, since at the distribution level it is becoming much harder to distinguish a fake packet from the genuine article, and amounts seized tend to be much smaller.

6.66 Some tobacco companies have introduced covert product authentication devices in their products, and these have assisted their own personnel to identify counterfeited products at points of sale and during Customs and police operations. However, overt devices that would enable genuine sellers and buyers to readily identify fakes have proven much more difficult to implement. It is worth noting that in other industry sectors covered by the OECD study, the experience of those industry groups has been that even sophisticated overt devices (such as holograms) have been quickly reproduced by counterfeiters, so this remains a significant challenge to the tobacco industry.

6.67 The securing of the legitimate distribution chain is regarded as another key issue. Some of the respondents noted that a significantly lower counterfeiting level was noticeable in countries and territories where distribution is controlled, and consumers can only buy cigarettes in regulated outlets. The reason for this might be that in case of strict regulation consumers know that the cigarettes they buy in places other than authorised stores are likely to be illicit (including those that are counterfeited).
6.68 Therefore, in countries where strict regulations limit the possibilities for counterfeitors to infiltrate the supply chain, counterfeited cigarettes could be considered as being only partly deceptive, since consumers might consider the possibility that the illegal cigarettes they buy might be counterfeits rather than smuggled genuine items.

6.69 Also, as part of efforts to address counterfeiting some tobacco companies have created a Brand Integrity group that provides training for Customs officials and assists Customs and law enforcement authorities around the world. These activities focus on tracking, seizing and destroying counterfeit products, identifying manufacturing sources and supporting the prosecution of those who are involved in counterfeiting activities. Industry reported excellent co-operation in this field by China, Russia, Canada, Germany, Belgium, the Netherlands, Spain, Italy and France.

6.70 Canada provides an explicit example of a government anti-counterfeiting initiative. There, the Canada Revenue Agency, together with tobacco companies, has developed a new packaging technology for cigarette packs which employs labelling and watermark technology similar to that used for banknotes.

6.71 However, despite the reportedly good co-operation with governments, respondents also reported problems at the local government level in some countries that negatively affect anti-counterfeiting measures. This occurrence has also been reported by respondents in other industry sectors examined in the course of this study.

6.72 In general, it is difficult to quantify the success of the anti-counterfeiting measures. Seizure and destruction statistics alone do not indicate the level of success of those measures, as the quantity of counterfeit cigarettes that go undetected is unknown. Some tobacco companies conduct market surveys, but these only provide an indication of the levels of counterfeit production in a specific area or market, and cannot be extrapolated to determine the overall consumption of counterfeit cigarettes or the success of anti-counterfeiting strategies.

6.73 Nevertheless, an example can be given of the results achieved by operations organised and initiated by industry in co-operation with governments. One of the respondents reported that in 2004 and the first quarter of 2005, on a global basis, their anti-counterfeiting efforts resulted in over 1.8 billion counterfeited cigarettes being seized. In total, 428 printing and/or manufacturing facilities were raided in 23 countries. During the same time period, as part of an ongoing law enforcement training programme, this company conducted 93 law enforcement training sessions in 36 countries, with over 2,100 law enforcement officers trained.

6.74 However, these countermeasures come at a price, and respondents also reported that legal costs are significant in those instances where tobacco companies are forced to take civil actions against counterfeitors. According to industry, a strictly objective assessment of these countermeasures would indicate that in the short term their cost may exceed the losses that would be incurred by taking no action. Despite this, fighting counterfeiting is considered as a long-term investment, and companies report that they are continuing with their efforts to detect and prosecute counterfeitors.

6.75 Industry respondents also noted that law enforcement authorities would be involved wherever possible, as they can invoke criminal actions against the persons involved, which can result in heavy fines or jail terms, and these are considered to be much stronger deterrents than the court orders and civil damages available under private law. A similar point was made by respondents in other industry sectors surveyed during the course of this OECD study.
6.76 Some manufacturers have entered into MOUs with governments and Customs authorities in an effort to reduce smuggling and counterfeiting. Other intergovernmental and inter-regional co-operation (such as the Crocodile projects in the ASEAN region) has targeted the distribution and sale of illicit cigarettes (both genuine and counterfeit). As long as they can be sustained, these initiatives are likely to make it more difficult for counterfeiters to produce, distribute and market their products.
ATTACHMENT

Propensity to produce or consume counterfeited tobacco products

<table>
<thead>
<tr>
<th>FOR PRODUCERS</th>
<th>EFFECTS ON PROPENSITIES TO CONSUME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Unit profitability</td>
<td>The potential profit margin can be quite large, due to the high excise and other taxes imposed on tobacco products, especially in the US and the EU.</td>
</tr>
<tr>
<td>Market size</td>
<td>Over 1.1 billion people smoke 5.5 trillion cigarettes per year. There is probably no other single product that is regularly consumed on such a large basis. Thus, the market opportunities are enormous.</td>
</tr>
<tr>
<td>Genuine Brand Power</td>
<td>Many tobacco brands (especially cigarettes) are widely advertised and promoted, and so are well known throughout the world.</td>
</tr>
<tr>
<td><strong>Production, distribution and technology</strong></td>
<td></td>
</tr>
<tr>
<td>Production investment</td>
<td>Once the investment has been made in cigarette manufacturing and packaging/labelling equipment, the cost of production is quite small (around USD 3 per carton). Manufacturing equipment is relatively compact, and thus the investments in production facilities are likely to be moderate.</td>
</tr>
<tr>
<td>Technology</td>
<td>Because of the simple nature of tobacco products it is not necessary to invest in sophisticated technology.</td>
</tr>
<tr>
<td>Logistics</td>
<td>Tobacco products are small items that do not need special handling and can be transported using normal means. However, arrangements to either smuggle or bypass customs/excise attention would require special attention, and may require the participation of well organised groups.</td>
</tr>
<tr>
<td>Marketing and sale</td>
<td>Branded products are well known and have a ready market. Cigarettes can be sold in packets or even individually to increase their appeal in low income markets. The use of the Internet is becoming increasingly important.</td>
</tr>
<tr>
<td>Ability to conceal operations</td>
<td>While some moderately bulky equipment is necessary for the production of counterfeited tobacco products, concealment would not be too difficult. Obtaining raw materials (especially tobacco), and moving stock in and out of premises likely to be most difficult aspects to conceal.</td>
</tr>
<tr>
<td>Deception</td>
<td>For the average consumer it is practically impossible to detect counterfeited tobacco products, especially where the buyer is not familiar with the taste of the product. This is because it is very simple for counterfeiters to copy the look and packaging of the tobacco product. In some cases counterfeiters can charge prices that are close to those of the original items.</td>
</tr>
<tr>
<td><strong>Institutional Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Risk of discovery</td>
<td>Despite considerable customs/excise and industry efforts to apprehend smuggled and counterfeited tobacco products, in practice the actual risk for counterfeiters seems to be acceptable to them, mainly due to the large volume of trafficking that takes place and the sophisticated methods used to avoid, or at least minimise, detection.</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Given the illicit nature of the trade, and the fact that these are excisable goods, the likelihood of prosecution if apprehended would be very high.</td>
</tr>
<tr>
<td>Penalties</td>
<td>Penalties, including heavy fines and jail sentences could be expected by those found guilty of counterfeiting and smuggling.</td>
</tr>
</tbody>
</table>
### FOR CONSUMERS

<table>
<thead>
<tr>
<th>EFFECT ON PROPENSITIES TO CONSUME NON-DECEPTIVE ITEMS</th>
</tr>
</thead>
</table>

#### Product Characteristics

| Price | Price may be a very strong contributing factor, and may encourage consumers to buy them even if there is a suspicion that the cigarettes may not be genuine. This may be especially so in low income markets where normally consumers would be excluded from smoking original brands at full prices. |
|-------|
| Quality and nature of product | The appearance of counterfeited cigarettes can be very close to originals. While taste may differ, many consumers may not be able to make comparisons. |
| Ability to conceal status | Some consumers may buy counterfeited brands as status symbols, and the concealment of counterfeits could be relatively easy in unsophisticated markets. In such cases, the close outward appearance of the counterfeited items to the originals would certainly be a factor in consumption. |

#### Consumer characteristics

| Health risks | Potentially very high, but this has not generally deterred smokers. However, for known counterfeited products there may be strong reluctance to use them, unless other factors (such as image or price) over-rode health concerns. |
|--------------|
| Safety risks | None obvious. |
| Personal values | Indications are that consuming counterfeited cigarettes not considered to be a serious crime. |

#### Institutional Characteristics

| Risk of discovery | Very little, since detection of counterfeited cigarettes on the consumer level is ineffective, and reportedly companies and governments focus on manufacturers or the distribution/supply chain. Detection at the consumer level is generally not undertaken by either industry or governments. |
|-------------------|
| Risk of prosecution | Little risk of prosecution as the number of individuals would be very large, difficult to find and the quantities involved are likely to be small. Overall, prosecuting consumers is likely to be a quite ineffective way of dealing with counterfeiting in this sector. |
| Penalties | If at all existent, penalties would be limited to small fines, since consumers buy small quantities of cigarettes that do not justify large penalties. In addition, consumer could also claim to not having knowingly bought the counterfeits, especially if these were sold in regular outlets. |
| Availability and ease of acquisition | Freely available and easily acquired in many markets. Difficulty of smuggling in some jurisdictions may make availability uncertain. The Internet is a growing medium of sale |
References


World Bank (2001), Economics of Tobacco for the East Asian and Pacific (EAP Region).