# Makers vs. Fakers: how counterfeit goods hurt competition, harm the economy and kills consumers

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# Abstract

According to the U.S. Chamber of Commerce, counterfeit products cost the United States 750,000 jobs per year (<u>www.uschamber.com</u>). In addition, global counterfeiting activity has nearly doubled since 2008, now accounting for almost half a trillion dollars annually. Aside from the fact that counterfeiting is illegal, counterfeit goods hurt legitimate companies, cost governments tax revenue and put consumers at risk when purchasing products that do not meet health and safety standards. In this paper, the authors discuss the impacts and issues surrounding the sale of counterfeit goods and provide a three-step approach to combatting counterfeit products.

Keywords: counterfeit goods; fakes; intellectual property theft

# Introduction

"I believe China is a major trade violator. The Chinese break all the rules. They counterfeit our goods, steal our international property rights, and hack the computers of our industries and government. Something must be done about it". ---Lawrence Kudlow

The above statement is not simply "China bashing" but rather echoes the frustration of both manufacturers and consumers. The Organization for Economic Co-operation and Development (OECD) reports that the United States is hit hardest by counterfeit goods (see Figure 4), more than any other nation and that the value of counterfeit goods from China exceeds the value of the next nine countries combined (Trade in counterfeit goods, 2018). OECD data in Figure 6 below clearly point to China (including Hong Kong) as the country producing the greatest amount of pirated, or fake goods with a total of 84.5% of reported seizures. Chinese counterfeit goods span across multiple industries including everything from apparel, accessories, music, software, medications, cigarettes, automobile and airplane parts, consumer goods, toys and electronics.

Many consumers get caught up in purchasing fake, or counterfeit products. In some cases, the consumer desires a high-end luxury product but cannot afford it so instead; they purchase the designer "look-alike." Some might argue that this is a victimless crime but according to the Organization for Economic Co-operation and Development (OECD), the global trade in counterfeit goods today exceeds half a trillion dollars (OECD, 2018).

Other consumers might be deceived into thinking that they are purchasing the actual designer name product at a bargain price. However, consumers are not the only ones hurt by counterfeit goods. Manufacturers, sometimes producers of designer products, suffer losses in sales when counterfeit goods undercut prices. Both manufacturers and consumers are also deceived and put

at risk when counterfeit component parts that fail to meet safety standards are substituted for safety compliant genuine parts. Even worse, counterfeit medicines and health-related products prevent persons from receiving the necessary treatment needed to maintain good health. Brill (2017), warns that "Counterfeit cosmetics tout high levels of mercury, arsenic, and even traces of urine and feces, all of which can cause severe allergic reactions and possible long-term harm to your skin, eyes, and hair." Wickersham (2018) reports that police in Los Angeles recently seized counterfeit cosmetics valued at more than one million dollars under brand labels including Urban Decay, Kylie Cosmetics, and MAC. Tests performed on the merchandise found traces of lead, bacteria, and fecal matter.

In addition, the consumer has been warned about several other stores offering counterfeit products such as the Dollar Store, Dollar Tree and Family Dollar and this was reported on several media. One example was at althealthworks.com where consumers were warned about ten toxic products that consumers should avoid purchasing at these stores which included electronics, plastic products, Christmas décor, etc. (https://althealthworks.com/14802/10-toxic-items-to-avoid-authoryelena/)

Many larger cities have stores or even shopping districts where counterfeit goods are commonly sold. In Houston, many shoppers looking for a knock-off designer handbag know to go shopping on Harwin Drive, while customers in the Los Angeles area go to Santee Alley and in New York City, you can find sellers of counterfeit goods almost everywhere along Canal Street! (https://www.newyorkcitytrippers.com/posts/canal-street-gucci-prada; http://articles.latimes.com/2007/dec/01/local/me-santee1.

Often, the perceived image of buying counterfeit goods is often one of buying items out of the back of a van or a person selling items out on the sidewalk but often that isn't the case. As indicated in Figure 2 below, more than 60% of counterfeit or fake goods are conveyed via the mail system! Although we might feel safe purchasing products by large, well-known companies such as Amazon or WalMart but retailers may wittingly or unwittingly sell counterfeit goods. Semuels (2018) points to several lawsuits facing Amazon by various name brand companies who believe that the giant online retailer is not doing enough to prevent counterfeit products from being sold on their website. Now, these examples are very different from Kroger, CVS, or Walgreens who sell under their own product as these companies are not trying to pass along "knock-off" items" as their own but sell like items under their own company name.

Counterfeiting is a federal and state crime, involving the manufacturing or distribution of goods under someone else's name, and without their permission. Counterfeit goods are generally made from lower quality components, attempting to sell a cheap imitation of similar goods produced by brands consumers know and trust.

Counterfeiting should not be considered a victimless crime. Typically, counterfeiters target consumers looking for the lowest price merchandise. However, the goods with the lowest prices come at a significant cost to you and others. Following are some of the ways the U.S. Chamber of Commerce indicates how counterfeit goods can harm you or others.

Counterfeit goods are sometimes dangerous as they may be produced using substandard, dangerous, or cheaper quality components

- Buying counterfeit products can place you at increased risk for identity theft. Remember, these sellers of fake goods are criminals and can easily steal your credit card information.
- Buying counterfeit merchandise further supports organized crime and has been linked to funding illegal drug trafficking and terrorist activity.
- Legitimate companies, especially those with trademarked designer brands and patented products lose sales revenue needed to recoup already expensed research and development activity.
- Companies that produce counterfeit products often do not pay their employees fair wages and are also known to have sub-standard working conditions and utilize child labor. Brill (2017) reports that "According to the International Labor Organization, the majority of the 246 million child laborers work in the "informal" economy, the economy hidden from government and other authoritative supervision, which includes counterfeit."
- The sale of counterfeit products results in lower revenues and therefore, lower tax revenues for your city, state and country. (Brill, 2017)

Several key factors continue to fuel the expansion of counterfeit merchandise on the world market. The OECD has identified several key drivers of counterfeit trade activity. Demand drivers are based on consumer attitudes towards counterfeiting and piracy. Many consumers do not understand the potential harm to their economy or their own personal health and safety. In other instances, the consumer perceives to the product to be of equal, or at least acceptable quality to the genuine merchandise. Supply of counterfeit products is fueled by market opportunity, technology and distribution challenges, and the potential risk versus potential payout (Trade in Counterfeit and Pirated Goods, OECD).

# Terms

**Blockchains** can be described as a list of records, called blocks, linked to cryptography containing a timestamp, a cryptographic hash of the previous block, a timestamp, and transaction data (<u>www.wikipedia.org/wiki/Blockchain</u>).

*Knockoffs or Replicas* can be described as consumer goods are goods, often of inferior quality, made or sold under a brand name without the brand owner's authorization. Sellers of such goods may infringe on either the <u>trademark</u>, <u>patent</u> or <u>copyright</u> of the brand owner by <u>passing off</u> its goods as made by the brand owner (*www.wikipedia.org/wiki/Counterfeit\_consumer\_goods*).

*MarketSafe Program:* The IACC MarketSafe Program implements a strategic collaboration between the IACC and Alibaba to create a cross-industry alliance to combat counterfeit products online. (<u>https://www.iacc.org/online-initiatives/marketsafe</u>)

**Radio-frequency identification (RFID)** uses <u>electromagnetic fields</u> to automatically identify and track tags attached to objects. The tags contain electronically-stored information. Passive tags collect energy from a nearby RFID reader's interrogating <u>radio waves</u>. Active tags have a local power source (such as a battery) and may operate hundreds of meters from the RFID reader. Unlike a <u>barcode</u>, the tag need not be within the line of sight of the reader, so that it may be embedded in the tracked object. RFID is one method of <u>automatic identification and data</u> <u>capture (AIDC) (https://en.wikipedia.org/wiki/Radio-frequency\_identification)</u>.

## Discussion

## **Economic impact**

The economic impact of counterfeit goods comes in several forms. First, as noted above by the U.S. Chamber of Commerce, counterfeit goods cost the United States approximately 750,000 jobs per year. Second, the sale of counterfeit products robs market share from legitimate manufacturers and retailers. Third, governments lose substantial tax revenues which could be important in helping to provide health and welfare services to citizens. Counterfeit operations also provide funding to international criminal activities, ranging from activity smuggling drugs and trafficking weapons to member recruitment and military operations.

With counterfeit products accounting for nearly half a trillion dollars, or almost 10% of all trade in the European Union (OECD, 2016), the issue is much more serious than the perceived "victimless crime" labeled by many consumers who are often simply seeking a bargain or harmless designer product "look-alike.' As many of the countries impacted by counterfeit goods are European nations, the OECD is beginning to take a hardline attitude in trying to stop counterfeit goods. However, as noted in Figure 2, the United States is impacted the most by counterfeit merchandise.

The U.S. Department of Homeland Security conducted 34,143 seizures of counterfeit merchandise at the border in 2017. This represents an increase of almost 3,000 seizures compared to 2016. The Department of Homeland Security table indicates the categories of products typically counterfeited and transported to the United States and seized by DHS.

Although the impact of intellectual property theft has become more severe, intellectual property theft has been an international trade concern for many years. In addition to government and international agencies working to combat the problem, several industry organizations have emerged to help stem the tide of counterfeit goods and protect domestic companies. One such organization is the International Anti-Counterfeiting Coalition (IACC). Formed in 1979, the IACC now represents more than 250-member companies in advocating for better intellectual property protection. Under the MarketSafe program, the IACC works closely with government agencies and companies such as Alibaba, a global retailer and major distributor of counterfeit merchandise.

Working with global retailer Alibaba has resulted in more than 6,800 sellers' storefronts closing and permanently banned from conducting business through Alibaba. In addition, nearly 200,000 product listings of goods found to be infringing on intellectual property rights have been removed from the Alibaba website (What is Counterfeiting?).

FY 2017 Products	Number of seizures	Percent of total
Wearing apparel/accessories	5,223	15%
Watches/jewelry	4,297	13%
Footwear	4,224	12%
Consumer electronics	4,137	12%
Consumer products	3,912	11%
Handbags/wallets	3,266	10%
Pharmaceuticals/personal care	2.209	6%
Optical media	809	2%
Computers/accessories	454	1%
Toys	449	1%
All others	5,163	15%
Total number of seizures	34,143	

Table 1: Department of Homeland Security seizures, by merchandise category

Source: Homeland Security, cited in Wickersham (2018)

Companies across the globe are concerned not only with the loss of revenue by the sale of counterfeit "knock-offs" but are also concerned with the potential damage to the reputation of their established brand. Companies spend large sums of money and many years in developing their brand image. Counterfeit products made from shoddy materials or containing inferior ingredients can damage the established good-reputation of your company. In the table below, we see that the Top 20 brand trademarks have estimated values totaling billions of dollars.

Of course, developing a top brand trademark does not come cheap. Spanier (2015) reports that although Apple's advertising budgets are a closely guarded secret, by 2015, Apple was spending 1.8 billion dollars *annually* on advertising alone to help build their brand. Certainly, additional marketing dollars are spent on a variety of other marketing activities such as public relations and publicity to enhance the brand.

Rank	Brand	Value (USD billion)
1	Apple	118.8
2	Google	107.4
3	Coca Cola	81.5
4	IBM	72.2
5	Microsoft	61.1
6	General Electric	45.5
7	Samsung	45.4
8	Toyota	45.4
9	McDonald's	45.2
10	Mercedes Benz	34.3
11	BMW	34.2
12	Intel	34.1
13	Disney	32.2
14	Cisco	30.9
15	Amazon	29.4
16	Oracle	25.9
17	HP	23.7
18	Gillette	22.8
19	Louis Vuitton	22.5
20	Honda	21.6

Table 2: Estimated value of Trademarks (2014)

Source: Trade in Counterfeit and Pirated Goods: Mapping the Economic Impact, OECD report

# **Health Dangers**

Counterfeit products can be harmful to your health in some surprising and not-so-surprising ways. Among the more obvious ways, counterfeit medicines might not contain the appropriate dosage of active ingredients or might not contain the active ingredients at all! Counterfeit medicines and pharmaceutical products can be found purporting to be a suitable treatment or the actual prescribed medication for a variety of illnesses including heart conditions, cancer, pain relief, and other conditions. Even sunglasses expected to protect the wearer from harmful UV rays might not provide UV protection as the maker of the original sunglasses.

Ferrante (2017) calls to our attention the potential health risks associated with counterfeit food products. In an article on food engineering, Ferrante (2017) reports that food is now the fourth most valuable counterfeit market. Olive oil, fish, vinegar, vanilla and coffee are among the most common counterfeited food products.

The food industry has begun using a layered approach to brand protection which includes overt techniques such as watermarks, holograms, barcodes, embossing and etching. The industry has

also begun employing covert technologies ranging from infrared and fluorescent inks, UV, taggants, Smart technology and radio frequency identification (RFID). According to Ferrante (2017), A new development in food brand protection includes new packaging that examines food freshness by touch.

A small bioactive sheet of gelatin is placed in the corner of the package. When the gelatin is smooth, the food is safe, but when it becomes rough and bumpy to the touch, the food has spoiled. This technology prevents fraudulent or subpar food from masquerading as a manufacturer's brand. This tactile expiry date is a unique way of engaging the consumer with a product on an often-ignored sensory level: touch. (Ferrante, 2017)

In the EUROPOL report, *The risks of fake goods*, consumers are warned of the risks associated with a wide range of consumer goods including alcohol and tobacco products. In the case of tobacco products, counterfeit cigarettes generally contain higher levels of nicotine and tar and produce more harmful levels of carbon monoxide. Counterfeit alcohol can contain higher levels of methanol. Higher levels of methanol can result in liver damage, coma, and death. The report refers to an instance in Turkey, where 23 persons died after consuming lethal levels of methyl alcohol.

Counterfeit clothing can also be hazardous to your health. The EUROPOL report cites an example of children's cotton and woolen clothing treated with formaldehyde in 500 times the acceptable level. Formaldehyde is sometimes used to provide a permanent crease in clothing to reduce the time and effort to iron clothes. However, according to the World Health Organization (EUROPOL report), high levels of the chemical can produce skin, eye and nasal irritation, as well as asthma, respiratory problems and even cancer.

Counterfeit electronic products can also be especially dangerous as they can potentially electrocute you or overheat and possibly even catch fire. In addition, the product might not perform as expected in an important situation or emergency. Electrical products with gauges and other measurement instruments could produce inaccurate readings. Counterfeit electrical products might also be produced with substandard insulation, undersize wire, faulty safety seals or other substandard parts. Of course, when a counterfeit product is labeled with a falsified safety certification, the consumer assumes that they can use the product for the appropriate intended use.

One might recall reading reports in 2016 of hoverboards catching fire. The U.S. Customs and Border Protection (cited in Wickersham, 2018) seized more than 16,000 counterfeit hoverboards with registered logos and unauthorized batteries. The registered logos were used unlawfully, and the batteries were the subject of many consumer reports of catching fire or exploding while being charged, resulting in damage and injuries to consumers.

Even the wine you purchase may be counterfeit! In 2013, *The New York Post* reported a story about an illegal immigrant from Indonesia of Chinese descent named Rudy Kurniawan who was sentenced to prison for what is considered the greatest wine scam in U.S. history (October, 2017). Many of the top wine aficionados purchase wine not only to drink but also as investments.

Wine experts consider a 1945 Romanée-Conti burgundy wine one of the legendary wines of the previous century. Also, only 608 bottles were produced. Kurniawan sold six bottles of the 1945 Romanée-Conti priced at \$13,000 each to a tech billionaire. If the buyer had checked with the winery, he would have found that nobody at the winery knew where even a single bottle of 1945 Romanée-Conti could be located.

According to Teague (2018), expert wine counterfeiters generally use counterfeit bottles, labels, and corks to disguise the wine. In some instances, counterfeiters have used wine barrels which later turned out to be made from cheaper wood and even grapes falsely sold as superior quality have been passed off to vintners. The smarter counterfeiters use ways to age the paper labels and even utilize original wax to seal the bottles.

# Combatting the counterfeits

Experts offer some basic steps in avoiding counterfeit products beginning with price, packaging and place. The International Anti-Counterfeiting Coalition suggests we look for the "3 P's", price, place and packaging. Concerning price, remember the old saying "if the price looks too good to be true, it probably is." Regarding place, consider where the product is being sold. When making an in-store purchase, only deal with respected merchants. When shopping online, although counterfeiters often steal pictures online from legitimate websites, watch for spelling, grammatical errors, typos and lacking details under product descriptions (https://www.iacc.org/resources/about/what-is-counterfeiting).

# Help from high-tech

According to Bettadapura (2018), modern artificial intelligence technologies can search out and detect inconsistencies. Essentially, the technology examines the images and descriptions of the original product listings of online retailers in addition to pricing and customer reviews. Bettadapura works for DataWeave, a company that developed AI technology with the capability of detecting counterfeit goods.

In a test DataWeave performed for one of their customers, DataWeave found that 55% of 500 products they tested across eight websites were found to have at least one counterfeit product. In some instances, some products had as many as 20 counterfeit versions. This suggests how significant a problem counterfeit goods are in the online marketplace.

Bettadapura suggests that brands also take on counterfeit merchants as well. One way that this could be done is by tracking counterfeit products and developing company blacklists that online retailers like Amazon and Walmart.com can use to reject counterfeit products from being sold on the website.

England (2018) points to the new hand-held IBM Crypto Anchor Verifier which is capable of detecting counterfeit wine or diamonds, along with a host of other products. The technology is even capable of discerning an organic ear of corn versus a genetically-engineered ear of corn.

Private companies, especially those specializing in security technologies such as INCOPRO, are often able to provide specialized services that include online brand protection, advertising monitoring, content protection intelligence and site blocking intelligence. One of the key

technologies employed to help prevent counterfeiting is the use of blockchains. Wikipedia describes a blockchain as a list of records, called blocks, linked to cryptography containing a timestamp, a cryptographic hash of the previous block, a timestamp and transaction data (<u>www.wikipedia.org/wiki/Blockchain</u>). The blockchain is designed to resistant to data modification. When recorded, data in a block cannot be altered without altering all the other blocks of data

INCOPRO assists companies in eliminating the sale of counterfeit goods sold on social media platforms. For example, on Instagram user posts are centered on "clusters", where one user post is linked to another user utilizing a unique identifier. Instagram users might watermark their pictures using a WeChat ID, and this WeChat ID might also be found in another users" "about me" listing.

INCOPRO developed a solution which utilized a clustering method that links together different Instagram users and connects them to external sellers they may employ. With Instagram, the external seller is typically WeChat. Clustering enables INCOPRO to determine who the counterfeiter is and remove any and all their accounts, eradicating the problem.

# Conclusion

Despite the magnitude of counterfeit trade and the serious consequences to producers, consumers, and governments, little has been accomplished in combatting this global issue. The Anti-Counterfeiting Trade Agreement (ACTA) was a treaty established to institute international standards for intellectual property rights. In October 2011, Australia, New Zealand, Canada, Japan, Morocco, Singapore, South Korea, and the United States signed the agreement. The following year (2012) the European Union and 22-member countries also signed the agreement. The agreement would have taken effect if at least six of the signatory countries had ratified the agreement. In July 2012, the European Parliament rejected the agreement with only 39 members voting in favor, 478 voted against the measure and 165 members abstained.

As noted in Figure 1 below, the authors recommend the following three-step approach to combatting counterfeiting. The three-step approach begins with prevention. The first step, Prevention includes educating both producers and consumers. Remember that producers sometimes unknowingly purchase inferior parts or ingredients from suppliers. Brands need to work closely to develop manufacturer blacklists which can then be provided to retailers such as Amazon and Walmart.com. Retailers should also develop and enforce policies prohibiting the sale of pirated or counterfeit products and prominently state those policies for both suppliers and consumers.

Detection, the second step, focuses on government enforcement employing both humans and high-tech methods such as artificial intelligence. Companies might also install Radio-Frequency Identification (RFID) chips in their products to identify counterfeit products. Upscale athletic footwear brands such as Salvatore Ferragamo routinely install RFID chips in their products. RFID can be distinguished from other controls in that the tags can store data on them and the tag does not need to be in the same vicinity as with a barcode (which is used in grocery stores and gas stations when items are scanned to retrieve prices)(https://en.wikipedia.org/wiki/Radio-frequency\_identification).

Other technologies, including the use of artificial intelligence, can be effective in detecting counterfeit goods. Perhaps most important, international cooperation of government agencies is essential in working toward the elimination of counterfeit goods and protection of intellectual property rights.

Finally, we offer several remedies in the event your products or merchandise is counterfeited. It is important that countries and global trade organizations such as the World Trade Organization cooperate in eliminating counterfeit activity through confiscation and fines. Various legal actions, including lawsuits, can also serve as an effective deterrent to counterfeiting. Companies can assure customers that they are purchasing genuine products through the use of buyer protection plans and third-party escrow payment. Perhaps one of the most important remedies is for consumers not to purchase counterfeit merchandise and if they do so unknowingly, be sure to report the counterfeit sellers.

## Figure 1: A three-step approach to combatting counterfeiting



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Figure 2: Counterfeit and pirated goods: countries with greatest IP infringement (2013) Source: OECD, 2016

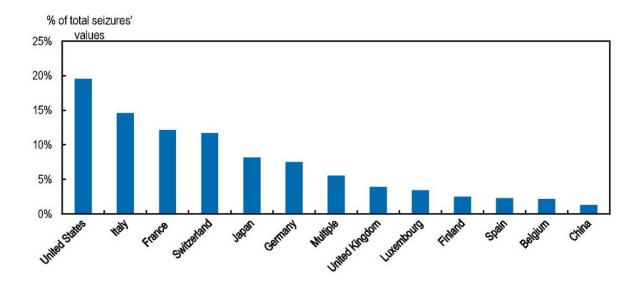


Figure 3: Counterfeit and pirated goods: Methods of conveyance (2013)

Source: OECD, 2016

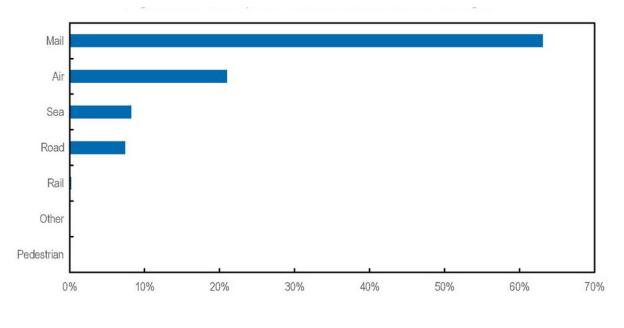


Figure 4: Seizures of counterfeit and pirated goods: major industries (2013)

Source: OECD, 2016

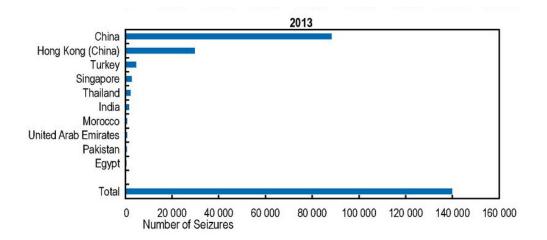


Figure 5: Countries hit hardest by trade in fake goods (2013)

Source: OECD, 2016

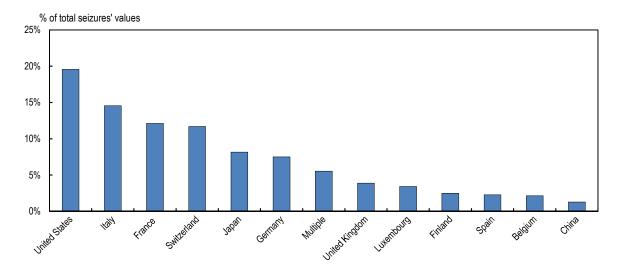


Figure 6: Where most counterfeit goods originate (2013)

Source: OECD, 2016

