

## An Economic Analysis of Counterfeit Goods: the Case of China

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### Introduction

The paper provides an economic analysis of two types of counterfeit goods under market equilibrium and under market failure respectively. Section one answers why consumers demand fake goods, the counterfeiters' incentives, dynamics of short-run equilibrium and changes in the long run. Counterfeiting, as a market behavior, lasts as long as the pleasure from consuming and super profit from producing exist. Section two analyzes six non-market factors behind the large-scale production in China. There are institutional, economic and social reasons that keep this illegal industry flourishing. Measures improving these factors should be effective to prevent a crackdown on the industry.

Gentry et al. reveal that the difference between counterfeit and genuine articles did not appear to be dichotomous but a more continuous one that was made up of various levels, which include genuine, second, overall, legitimate copycat, high-quality and low-quality counterfeits.<sup>1</sup> Yet the price gap between the genuine and various counterfeits is truly deep, which has created and furnished a huge market both domestically and internationally. For instance, an authentic DVD is sold on average at around 10 to 25 US dollars in US or European countries, while a pirated one only costs two or three dollars imported from China. By all standards, China is now the world's largest source of counterfeit goods. The Chinese government is caught between combating the counterfeiters and coping with the unquenched market demand once in a while. Now, not only most foreign brands like Pierre Cardin or Polo, but also Chinese local brands have been victims of fake goods production. Since the early 1980s, counterfeiting has reached a critical level, estimated as great as 15 – 20% of all brand products in China.<sup>2</sup> A more conservative number from the China State Council in July 2004 estimated that the market value of counterfeit goods is at \$19-24 billion annually. Based on the \$7 trillion worth of total retail sales of consumer goods in China, counterfeiting is a very sizable activity in the nation's economy. One estimate gauged the sales of counterfeits are estimated to be about \$299 billion globally.<sup>3</sup> Another source, the International Chamber of Commerce, estimated that counterfeit products account for 8% of world trade.<sup>4</sup> Thus, counterfeiting has already become an overwhelming issue in China and also a significant focus in its international trade relationships.

Although the scope and size of counterfeiting in China is unprecedented, historically, the economies of many countries, including the United States and Korea,

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<sup>1</sup> Gentry, James W., Sanjay Putrevu, and Clifford Shultz II. "How Now Ralph Lauren? The Separation of Brand and Product" in *Counterfeit Culture*, mimeo (2002), University of Nebraska-Lincoln.

<sup>2</sup> Zhu, Kan. "Anti-counterfeiting in China," mimeo (2001), New York University School of Law.

<sup>3</sup> Chakraborty, Goutam, Anthony Allred, Ajay Singh Sukhdial, and Terry Bristol "Use of Negative Cues to Reduce Demand for Counterfeit Products," *Advances in Consumer Research*, 24(1997): 345-349.

<sup>4</sup> Freedman, David H. "Faker's Paradise," *Forbes ASAP*, April 5 (1999): 49-54.

have encountered the similar issue at the certain stage of economic development. In a market study, Gentry et al. conclude that while counterfeiting is a global phenomenon, though its presence is more common and more severe in some countries than others.<sup>5</sup> Why has this happened and why has it been existing so long? What are the effective measures to both prevent and eliminate the fake goods? This paper attempts to answer these questions from an economic perspective.

One of the basic assumptions in applying economic theory is that market participants including consumers and producers are rational decision-makers. In other words, their sole objective is to maximize their welfare (utility for consumers or profit for producers) subject to the current resource or information constraints. There are two distinct kinds of consumers in the counterfeit market. The first type has the perfect information on the product and is willing to purchase the fakes to meet their needs at a desirable price range. The decision is made after consumers balance their tastes, income and price. The other type has imperfect information on the merchandise and is mostly a victim of commercial scam. Although both cases are of the same nature to producers, i.e. selling fakes, they affect consumers in a different way and have distinct consequences. The former is considered market equilibrium while the latter is more or less a market failure. We thus will treat the two scenarios separately.

### **Market Equilibrium**

#### 1) Market demand

By interviewing the informants, Gentry et al. found that under certain circumstances consumers are reaching for a specific brand and willing to compromise on the product.<sup>6</sup> A counterfeit appears to offer consumers a chance to separate the brand from the product. While the purchase of a counterfeit represents the consumption of the brand (brand decision), it does not appear to represent a "product" decision. Belk also found that people in transition economies are willing to pay disproportionate parts of their income for symbolic Western products.<sup>7</sup> Therefore, there is a reasonable market demand for counterfeits in less developed countries such as China, and even more advanced countries like the US (some street vendors have been caught selling counterfeits). What determines this demand? First, counterfeits allow consumers to try a low-grade version with the intent of purchasing the authentic item if the trial is successful. Second, counterfeits also appear to offer lesser value for lesser cost, which is an acceptable compromise and at times a desirable one given the initial outlay of expenditures required. Thus, counterfeits are good as long as they are counterfeits of some brand. Finally, the quality of counterfeits has improved greatly, especially as manufacturing technology has been out-sourced and new technology such as cheap, high quality color printers and copiers, and cheap CD burners and recording equipment have become more common. The sophistication needed to discern quality counterfeits from authentic items has increased.

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<sup>5</sup> Gentry, James W., Sanjay Putrevu, and Clifford Shultz II "Cross-Cultural and Home-Country Perspectives of IPR Infringements," in *Marketing Contributions to Democratization and Socioeconomic Development*, eds. Clifford Shultz II and Bruno Grbac (2000), Macromarketing Conference, Lovran, Croatia.

<sup>6</sup> Gentry, James W., Sanjay Putrevu and Clifford Shultz II "How Now Ralph Lauren? The Separation of Brand and Product" in *Counterfeit Culture*, mimeo (2002), University of Nebraska-Lincoln.

<sup>7</sup> Belk, Russell W. "Leaping Luxuries and Transitional Consumers," in Rajeev Batra (Ed.), *Marketing Issues in Transition Economies*, Boston(1999): Kluwer Academic Press, 41-54.

To be defined as equilibrium behavior, the counterfeit market must meet two conditions. First, the transaction is voluntary and both parties are willing to exchange their possessions in pursuit of their mutual benefits. The other is that the information is openly available, though releasing such information may have violated the intellectual property rights or other laws. A consumer buys the fake goods if he or she thinks that cheaper but lower-quality counterfeit goods better meet his/her needs or buying characteristics than more expensive yet high-quality genuine ones. Counterfeit goods provide consumers with good brand names at a competitive price, although their quality, contents and package may not be as good as the latter. For low-income individuals, counterfeit goods can be a good substitute for brand-new authentic ones. Other possible substitutes include defective, returned, refurbished or unsold out-of-date merchandise, which are often seen in outlets in developed countries, but not so readily available in the less-developed countries. In economics, income and preference are two of the most important determinants of demand. In countries like China and India, some consumers have strong preferences for name brands such as Nike and Polo over cheaper, local names. “Showoff” is more likely to yield a substantial amount of satisfaction among low-income communities. Since their low income will not let them afford the genuine ones, buying fakes may be a good option for them at the expense of manufacturers of genuine goods.

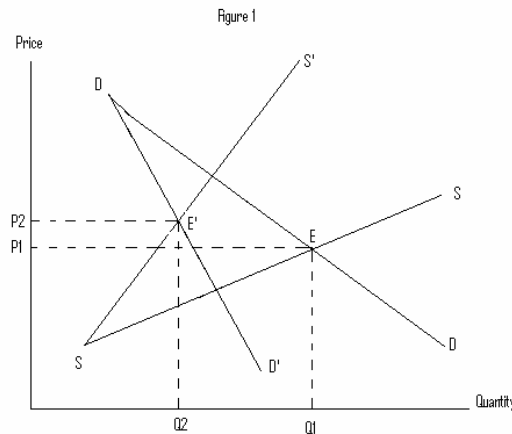
If the expenditure on counterfeit goods accounts for a fixed proportion of a consumer’s total budget, the demand for counterfeit goods will increase in the short run as income rises. But in the long run, he or she will most likely switch to demanding genuine goods whenever the income reaches a certain level. Therefore the price elasticity of demand for counterfeits decrease as income improves. Given the current income, the demand for counterfeit goods increases as the price goes down. This is described as the demand law in economics, i.e., a negative relationship between demand and price. In Figure 1, the demand curve is plotted as DD with a negative slope, where the horizontal and vertical axes represent quantity and price respectively.

## 2) Market supply

On the other hand, there are many manufacturers supplying counterfeit goods. Their profits are the net difference between sales revenue and costs. When the profitability of producing counterfeit goods is no lower than average returns from the general market, investors will move in, at the risks of possible loss and being caught by law enforcement. Part of the counterfeit producers’ revenue is the super-profit from the similarity between the counterfeit and the genuine and marketing savings paid by the latter. Counterfeit producers’ costs include both the transaction cost for production, management, transportation and selling, and the opportunity cost. The opportunity cost is the additional cost that producers have to bear when producing counterfeit goods, including legal costs necessary to deal with possible prosecution by government, lawsuits filed by genuine producers, consumers and various other interest groups. The legal cost can be very heavy, including being shut down, numerous monetary fines and jail time. It also increases as one of the following conditions improve:

- government improves the law enforcement;
- consumers recognize the illegality of buying the fake goods;
- the general public, legislature and law enforcement recognize property rights;
- regional market is being united.

Many counterfeit goods markets are actually protected by the local government for the sake of tax revenues, which eventually cancel out the crackdown efforts led by the central government. It is the high return in this industry that has made counterfeit goods production so motivated. Only as the price increases sufficiently high will producers expand their production of counterfeit goods. Therefore, the supply of counterfeit goods increases as the price goes up. There is in general a positive relationship between supply and price, i.e., supply law. In Figure 1, the supply curve is plotted as SS with a positive slope.



### 3) Short-run equilibrium

From Figure 1, consumers are willing to buy more counterfeit goods at lower prices while producers are willing to produce and sell more counterfeit goods at higher prices. Lower price means bigger compensation for consumers to buy fake rather than genuine goods while high price means higher profit for producers to take the risks. Their intersection defines market equilibrium, the position at which both consumers and producers are willing to trade. In Figure 1, point E represents a combination of price  $P_1$  and quantity  $Q_1$  that consumers and producers are willing to buy and sell counterfeit goods respectively. If the price is higher than  $P_1$ , quantity demanded will be less than that supplied, and eventually oversupply will drive the price down. If the price is lower than  $P_1$ , quantity demanded will be more than that supplied, and eventually over-demand will drive the price up.

### 4) Long-run equilibrium

In the long run, both demand for and supply of counterfeit goods will shrink. As economic capacity and income per capita improve, consumers' preference will eventually switch to genuine goods. At the same price level, consumers will demand less counterfeit goods and marginal rate of substitution of counterfeit goods for genuine ones will increase. Consumers need more compensation or bigger price gap to compromise quality. Therefore, the slope of the demand curve becomes sharper and at the same price level, the demand for counterfeit goods shrinks. The new demand curve is plotted as  $DD'$  in Figure 1.

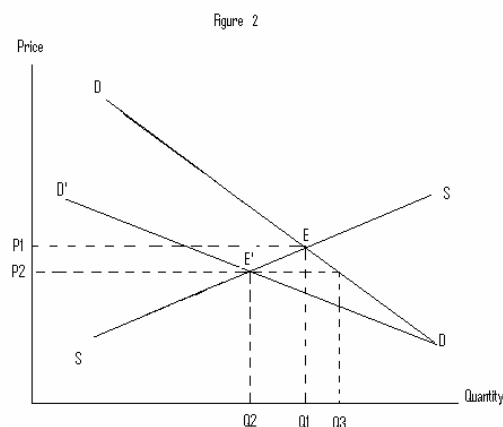
Given the shrinking demand, only the efficient producers can survive the market. If economic development also comes with the more effective legal system to protect innovation and property rights, production of counterfeit goods will become riskier and more costly. To cover the cost, producers demand higher returns to survive in the line of

counterfeit goods. In other words, producers' marginal rate of transformation will be higher and the slope of supply curve then becomes sharper. At the same price level, producers now are willing to produce less fake goods. In Figure 1, the long-run supply curve is plotted as  $SS'$ .

The new market equilibrium is the intersection point of new demand and new supply curves. Compared to the short-run equilibrium point  $E$ ,  $E'$  represents a higher price level and a lower quantity sold.

#### 5) Effect on Genuine Goods

Because some counterfeits appear to be an acceptable compromise and at times a desirable one given the limited budget, there is a substitution effect of counterfeits on genuine goods. This effect is greater as the price gap between one particular brand and an average brand on the market deepens. On Figure 2 below, the initial market demand and supply of a brand products without counterfeit factor are described by demand curve  $DD$  and supply curve  $SS$ . The market equilibrium is reached at point  $E$ , which indicates that an ideal quantity of  $Q1$  is supplied and demanded by the market participants at the desired price level  $P1$ . There is neither an oversupply nor a shortage. In an imperfect world, the possible counterfeiting activity is enticed by super profits from brand name, which will create a net substitution effect on the true brand products. Low-income consumers can afford the brand name without paying the market price for the brand product, which they normally cannot afford. High-income consumers are probably unaffected. There is a possibility that the low-income consumers in the previous periods will be converted from counterfeit consumer to genuine goods consumer because of their preference for the brand name (even counterfeit) as their income improves. This substitution effect diverges the demand curve for the brand from  $DD$  to  $DD'$ . The gap between the two curves deepens as the price rises. The existing counterfeiting does not affect the supply of the brand products directly because the latter is a sole decision of genuine producers. The new market equilibrium is reached at point  $E'$  with a reduced quantity  $Q2$  and price  $P2$ . Eventually, the market demand for genuine brand product is reduced from  $Q1$  to  $Q2$  because of a negative substitution effect  $Q3-Q1$  and a positive income effect  $Q3-Q2$  due to reduced price. Therefore, the counterfeiting is threatening the genuine brand products.



## Market Failure

Besides demand and supply driven by the “invisible hand”, there are many non-market factors attributable to the widespread counterfeit goods sales in China. Among them some of the most significant include:

1) Asymmetric information.

Information refers to everything relevant to consumers’ decision of spending. Perfect information is one of the assumptions to obtain market equilibrium defined as E or E’ in Figure 1. On counterfeit goods market, producers and sellers know most attributes of the product while individual consumers have very little information about it. In many cases, the latter have no idea that they are not buying the authentic products. Even if they do, the difference between the fakes and genuine ones is largely unknown. The asymmetric information has a positive effect on the demand for counterfeits and thus shifts the DD curve to the right.

It is generally the fact that producers are in the possession of more information on the product than buyers. The issue in China lies in the lack of both legal and institutional measures to protect consumer interests. Very little support is provided by government or few intermediate organizations are established to take consumers’ claims, maintain producers’ profiles or take legal action with systematic efforts. Without enough knowledge on manufacturers’ prior history, the so-called bad-apples can easily walk away from punishment and continue to cheat next victim consumers. In China, there is not a standard identification such as social security number for individuals or tax I.D for business. Individuals or businesses selling counterfeit goods can move to another city with fresh faces after they finish their business in one city.

2) Monopolistic industrial structure.

China is still in the process of transition from a central planning economy to a market economy. Both its political and economic systems are characterized by a monopolistic structure. Until today, government imposes most of its influence on the economy by controlling fixed investment, which accounts for over 50% of Chinese GDP while its normal share in US is less than 20%. Although the private sector has become more and more important in contributing to economic growth, governmental identities or State-Owned Enterprises (SOEs) still dominate the allocation of most economic resources such as entry to key industries, bank loans, licenses for exporting and importing, inter-provincial distribution, etc. It is very difficult for a private business to obtain entry to many profitable industries and a large amount of excess private capital could thus be invested in counterfeit goods as a fair opportunity. In reality, private businesses face much discrimination, for instance rent-seeking activities, in competition against SOEs so that normal profit from genuine goods production may not be sufficient to cover all costs. The difficulty to entry has a positive effect on the supply of counterfeits and thus shifts the SS curve to the right.

3) Regionalism.

Many counterfeit goods are partly covered and protected by local government while most of the crackdown efforts are from the central government. Since the inception of reform in 1978, government officials are appointed and evaluated based on a complex package of measures. The most important factor is their performance in terms of economic development, while others include social stability. After the Chinese taxation system was divided into federal tax and local tax in 1994, local governments including those at province, district and county levels, are responsible for their own fiscal

health. Political decision-makers at the regional or local levels are less motivated to crack down on the counterfeit goods industry especially if the genuine manufacturers being copied are not located in the same area. The counterfeiting manufacturer is often an important source of revenue for a certain locality, thus the local governments naturally become the umbrella or shield of the infringing enterprises. Some of the local government departments pull strings and seek help from powerful personages and go about drumming up support for the infringing enterprises. The central authorities, such as the Administration of Industry and Commerce, when investigating and dealing with infringement cases, have met with considerable resistance from local government departments so that a number of persons directly responsible for the acts of infringement committed by enterprises have long remained at large.

Zhu finds that local officials frequently come under great pressure to safeguard local economic interests and some have been known to form alliances with local counterfeiters.<sup>8</sup> In some cases, local authorities may delay enforcement actions after a complaint is filed. By the time law enforcement officials finally arrive at the suspect premises, the counterfeiter, offending goods, machinery, and equipment have all disappeared. Some companies have reported that within the first half hour of lodging a complaint with local officials, the alleged counterfeiters can be seen moving products out of factories or warehouses. Local officials have also been known to confiscate goods machinery, and equipment only to return these materials to counterfeiters once enforcement actions have been concluded. Moreover, since local enforcement officials have broad discretion in determining the amount of fines and penalties and are not constrained by any mandatory minimum limits, some local enforcement entities impose light fines. The regional protectionism has a positive effect on the supply of counterfeits and thus shifts the SS curve to the right.

4) Ineffective legal system.

Under the current Chinese intellectual property protection system, there are many laws applied to anti-counterfeiting. However, none of the laws provide that contributory infringement is illegal. It is clear that when manufacturers distributed their non-brand products to the warehouses or wholesalers, they definitely have knowledge that somebody or wholesalers will put the passing off marks on the products. The manufacturers' action constitutes contributory infringement. Under such circumstance, the manufacturers will avoid being claimed guilty of infringement or any violation of the laws and no punishment could be imposed on them. Another example is that the Customs Office who seize counterfeits and Chinese Trademark Office who records the genuine brand products do not establish any connection, which often makes it more difficult to provide proof of infringement.

More importantly, the current Chinese institutional design is that administration, legislation and judicial systems are all tightly controlled by the Communist Party from the federal level down to the county level. Judges may serve the same purpose as administration officials, i.e., in developing the economy. Lack of transparency, independence and knowledge in market economics often undermine the effectiveness of cracking down the fake goods industries and punishing illegal copiers. The ineffective legal system has a positive effect on the supply of counterfeits and thus shifts the SS curve to the right.

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<sup>8</sup> Zhu, Kan "Anti-counterfeiting in China," mimeo (2001), New York University School of Law.

5) Cheap labor.

The cheap labor rate has been the most prominent factor in considering the China market. Workers get paid \$50 per month at an average factory on the east coast such as ZheJiang and GuangDong provinces, not even mention the less developed land provinces. Cheap labor no doubt has been helping create the competitiveness of imports from the China market to the rest of the world, including imports of fake goods. As mentioned earlier, substantial profit between selling price and production cost is the dominant market factor behind this overwhelming issue. Extremely cheap labor in China can help explain why China, not other developing countries, has become the largest source of counterfeit goods in the world. The cheap labor makes it profitable to produce counterfeits and thus has a positive effect on the supply.

6) Distribution

It is not that the government does not want to interject into this issue; rather, it is the counterfeiter's guerilla distribution channels that make it impossible to track. Counterfeiters have set up probably the most cost efficient and deep distribution channel throughout China. The DVD market in particular is a good example. When they produce counterfeit products, manufacturers do not put any mark on the products. Generally they have separate warehouses, a long distance from the factories, or they cooperate with wholesalers. Manufacturers distribute the products to the warehouses or wholesalers without brand name, and in the warehouses or wholesalers' warehouses, the counterfeiting marks are attached to the products. Finally, wholesalers will put the passing off marks on the products before they are distributed to the market.

## Conclusions

China is not the only country with counterfeits, but it is no doubt one of the regions most severely afflicted with the production and marketing of counterfeits. The counterfeiting problem in China is complex. Rational demand for brand names by low-income consumers and super profits from producing counterfeit goods are incentives behind market equilibrium. Except that, existence of counterfeit goods can also be attributable to the market failure factors, such as asymmetric information, externality of quality goods, market monopoly and incomplete law enforcement.

The rational behavior of market participants will be ultimately adjusted by the changes in income, price, consumer preferences, and other market factors. There is no easy solution to counterfeiting as an equilibrium. However, counterfeiting as a result of market failure can be remedied by a comprehensive reform of relevant laws, intensified war against local protectionism, and consistent dedication from government leaders at all levels. The effective measures to address the issue of inefficiency in the legal system include:

- interpret clearly the legal terms under the Trademark Law Implementing Rules, and mandate imposition of the term of imprisonment and minimum fines against counterfeiters;
- recover to the trademark owners enough compensations based on actual damages suffered, including investigation and legal expenses;
- increase controls on domestic markets and export of counterfeit products in order to cut the distribution channels for counterfeit products;
- enforce laws against government corruption and protectionism at all levels.



## **An Economics Analysis of Counterfeit Goods: the Case of China**

Therefore, the fight against counterfeiting has a long way to go. Before then, however, counterfeits are going to exist on the market for some time.