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**FAST FASHION: winners and losers from  
the lack of IP protection in the U.S.**

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## INTRODUCTION

*“Having immersed myself in the industry in the preceding months, the magic of the fashion industry was simply fascinating to me. Where else could one find such dedicated, creative and hard-working people with a shared passion for their work? What other industry creates products that incite such passion? And which industry accepts and celebrates a cast of characters as colourful, diverse and entertaining as ours?”<sup>1</sup>*

The fashion industry is a creative and challenging place as described by Imran Amed, yet nowadays it has become a multibillion dollar business. Globally it is valued at around 1.5 trillion dollars<sup>2</sup>, and more specifically, sales in the U.S. amount to over \$200 billion<sup>3</sup>. It is a dynamic and diverse segment of the global marketplace affecting everyone’s lives, thereby creating interactions among an incredible number of people on a daily basis. Moreover it boosts the labor market by creating several job opportunities whose range varies from sewing machine operators in Honduras to fashion magazine editors in the most glamour cities. Furthermore, evidence shows an increasing number of people who are obsessed with fashion and spend billions of dollars on it worldwide. At the light of these events, it becomes clear that fashion has both a large impact on the World’s economy and on the society as a whole.

“The Economist” defines clothing a positional good, a commodity which is purchased to keep up with society or to “say something” about the owner. According to the same source, clothing has three faces: functional, as people need something to wear; artistic, from the point of view of the designer; and self-expression, from the point of view of the buyer that identifies himself with a particular item.

According to the German sociologist George Simmel, the reason why people spend so much of their disposable income on clothing is the “social status”. Fashion, in

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<sup>1</sup> Imran Amed, *Let’s show the World that Fashion is Serious Business*, The Business of Fashion, 2013

<sup>2</sup> Amed, 2013

<sup>3</sup>C. Scott Hemphill and Jeannie Suk, *The Law, Culture, and Economics of Fashion*, 2009

fact, is a struggle over social classes<sup>4</sup>, and since it elevates people's status, the social élite uses it to differentiate itself from the mass. What is more, fashion produces a trickle-down effect, since the lower class attempts to imitate fashion choices made by the upper class, in order to reach their social status. Thus, social stratification and social mobility are deemed to be the key elements stimulating changes in fashion: they impose pressures on the élites, which consequently keep changing their fashion elements with the aim of differentiating themselves from the imitation behavior of the mass. From a different perspective, the theory of collective selection, credited to the sociologist Herbert Blumer, states that many people share the same preferences in fashion at the same time, and such gathering around a particular taste creates trends<sup>5</sup>. However, besides all of these theories, many sociologists agree on the fact that people use fashion to communicate their personality, and, even though fashion is an individual choice, many decisions may aggregate into collective trends.<sup>6</sup>

The fashion industry can be classified according to two types of designers. The first class is that of producing high quality, luxury goods. These kinds of designers always create new designs that will be shown at Fashion Weeks. The second class is made of designers who imitate innovations made by the first class. The latter belongs to profit-seeking companies, which want to pursue the lowest cost methods of production by eliminating R&D costs to create new designs.

The U.S. fashion industry does not impose copyright laws protecting designs, thus it makes it possible to copy and replicate designs from other brands. This has led to the concept of fast fashion, which has opened the debate for granting or not copyright protection for fashion designs. Although hotly debated over the last 20 years, the lack of IP protection to fashion designers is not just an issue between them and the imitators, but it may even influence innovation in the industry.

The fashion industry is experiencing a phase of transition. Huge changes have taken place in technology, from consumer purchasing habits to globalization, all of which are now reflected in the industry structure. The emerging segment that we define

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<sup>4</sup> Hemphill and Suk, 2009

<sup>5</sup> Hemphill and Suk, 2009

<sup>6</sup> Hemphill and Suk, 2009

fast fashion is the main outcome of such changes. What is important to consider is that this new market segment cannot exist independently, yet it does affect the fashion industry as a whole, redefining competitive advantage within the market for fashion.

The aim of this paper is to examine how the fashion industry is changing, allowing the participation of fast fashion companies which interact with luxury brands in the global environment. In particular, it tries to figure out whether those companies that are copying designs from luxury firms, are in a sense hurting the fashion industry, or they are contributing to its development.

Chapter 1 will present the fast fashion model, the different kinds of fast fashion retailers and how it is possible for them to copy designs of luxury brands in a completely legal way; chapter 2 will model the fashion industry as an oligopoly, showing how the luxury and the fast fashion firms interact between each other and which kind of profits they make. In order to provide a comprehensive approach to the topic, chapter 2 will then delve into the Jean Paul Gaultier's case, trying to figure out why the entrance in the fashion industry of fast fashion retailers has led to the cut off of his ready-to-wear line. Chapter 3 will follow with an assessment of the theory of "Piracy Paradox" as a positive outcome of the existence of fast fashion retailers. A comparison between positive and negative externalities which the fast fashion model has brought to the modern fashion industry will end the discussion, along with a commentary on whether any action can be undertaken that enlarges benefits while minimizing costs for damaged parts, or whether such a business model is the natural consequence of the evolution in the Fashion Industry.

# **1 CHAPTER 1: Fast Fashion**

## **1.1 The Fast Fashion Model**

“Fast fashion is a contemporary term used by fashion retailers to express that designs move from catwalk quickly in order to capture current fashion trends”. Fast fashion retailers observe designs at Fashion Week and base their clothing collections on the trends they have seen from there. They focus on optimizing many aspects of the supply chain and on lowering costs of raw materials, in order to keep low prices and quick distribution. In fact, the main aspects on which fast fashion system focuses on are quick response through fast product turnover and enhanced design, through low-cost, trend based clothing. This is possible thanks to recent changes in technology and to globalization, which together have developed a cheap and easy global supply chain.

## **1.2 Different types of fast fashion retailers**

There exist two different kinds of fast fashion retailers: those that are fast fashion designers, as opposite to those that are fast fashion copyist.<sup>7</sup> The former limit their activity on interpreting and adapting trends, rather than actually copying designs. Examples of those types of retailers are the Swedish one H&M and the Spanish Zara. They do not make direct copies, but rather follow current trends that were presented on the runways. The latter type is that of fast fashion copyist; the most famous example is the American retailer Forever 21, which presents approximately exact copies of famous designs, together with quick responsiveness in the market. The reason why the fashion the fast fashion copyist Forever 21 is based in the U.S., as opposite to the fast fashion designers H&M and Zara, homed in the E.U., is that the U.S. do not provide legal protection for designer, while the E.U. does.

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<sup>7</sup> Hemphill and Suk, 2009

### **1.3 Different ways of copying**

In the fashion industry, we experience different kinds of copying, and it is important to distinguish between them because legal protections only apply to one specific typology. In fact, the only protection that designers can currently obtain is trademark protection. Designers who register their trademarks experience the highest level of protection. Some examples are the LV logo of Louis Vuitton and the intertwined Cs of Chanel

### **1.4 Trademark counterfeiting and counterfeiting goods**

There is a difference between trademark counterfeiting and counterfeiting goods. The former are those who present a copy of the trademark of a designer good, but a different design. The latter are those that rely not only on design and creative copying, but also on trademark infringement. They are low-cost replicas of luxury goods. Both of them are illegal since they violate trademark protection laws. However our attention will be focused in the design piracy, which is the copy of the design.

### **1.5 Copies and trends**

It is also important to point out the distinction among the concepts of copies and trends. Copies are defined as “something that is or looks exactly or almost exactly like something else: a version of something that is identical or almost identical to the original”, while trends are “something that is currently popular or fashionable”<sup>8</sup>. The problem is that it is difficult to decide whether something is a copy or a trend since we sometimes see the latter as the copy of a design.

### **1.6 Copying for fast fashion**

Nowadays, it is possible to make copies on a large scale and at low cost<sup>9</sup>. In fact, copycats can access quickly to designs watching fashion show online. Since their

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<sup>8</sup> Merriam-Webster dictionary, 2014

<sup>9</sup> Hemphill and Suk, 2009



copied version is produced with a lower quality, they charge items at low prices, earning profits because of the low unit cost. Moreover, copycats do not have R&D initial costs, which are bared by the original designer. The only loss those copycats could bare, arises from the fact that they cannot wait to see if the design they are copying will be appreciated by customers, so they have to guess which design will be the best seller.

### **1.7 Deter copying**

In order to protect themselves against the act of copying by fast fashion retailers, high-end designers try to create new designs that are difficult to imitate, as well as they include logos to enjoy trademark protection. In fact, they are keep stating that the act of copying made by fast fashion retailers will hurt innovation in the industry. A point in favor of high-end designers is the fact that many designs are difficult to be copied by a low quality brand, though copycats only copy those designs that are easy to emulate. It follows that a way to deter imitation is to use expensive materials and designs that are difficult to copy.

### **1.8 Potential reasons to the lack of IP protection in the U.S.**

Currently, legal protection for fashion designers exist in the European Union and in Japan, while in the U.S. copyright protection for fashion designs do not exist. Three reasons have been found to explain that; the first one is that in the U.S. it is not possible to give copyright protection to items that are considered useful for people, and clothing is one of those. The second reason is that historically there is no central power in the U.S. for the fashion industry, and therefore there is not an organization embodied to care of fashion designers. The last reason is that first mover advantage helps high-end designers gain much profits form their own inventions, since they are the first introducing the item in the market, and so the ones acquiring markets share first.

## **1.9 U.S. fashion designers want legal protection**

Many American designers aim to acquire legal protection for their fashion designs, in particular the fashion designer and president of the Council of Fashion Designers of America, Diane von Furstenberg, was published in the editorial of the Los Angeles Times, enhancing benefits of design protection comparing the E.U. fashion industry to that of the U.S. <sup>10</sup>

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<sup>10</sup> Von Furstenberg Diane, *Von Furstenberg: Fashion deserves copyright protection*, Los Angeles Times, 24 Aug. 2007

## **2 CHAPTER 2: A duopoly model for the fashion industry**

### **2.1 A polarized fashion industry**

Nowadays, we can figure out the fashion industry within an oligopoly structure. There are few firms which must differentiate between one other in order to stay competitive and make profits. However, even though firms are differentiated between themselves, we may enlighten two major strands. Michael Burke, Fendi's CEO said that "The market has become more polarized: either it's entry price or true luxury...The middle has allowed out. You either have to be resolutely upscale, or you're battling it out on prices"<sup>11</sup>. With this statement he means that the fashion industry is divided into two poles: luxury firms and fast fashion companies, that I have presented in chapter 1. In the following paragraphs, I will analyze these two typology of firms, showing that in order to stay competitive, they must differentiate between themselves as much as possible, and that companies which do not differentiate much cannot survive in the fashion industry for much time.

### **2.2 The leader-follower model**

For the purpose of this paper, I will divide the fashion industry between leaders and followers, this division will be made in terms of the timing decision on quality and brand image. For simplicity, I will assume that the industry is made just of two firms: the leader and the follower. The former, represents the luxury firm, who first introduce new designs and trends, and so who firstly decide on quality and brand image, while the latter is the fast fashion company, who copies trends, does not innovate and chooses quality and brand image after having observed the choice of the leader. The luxury firm sets the tone for the coming season in the runways, then trends are copied and implemented by the fast fashion company which, thanks to technology, can develop its products simultaneously. This model differs from the traditional Stackelberg's leader-follower for several reasons: the first one is that unlikely the classical one, the two industries decide simultaneously on price and

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<sup>11</sup> Socha Miles, *Defining the New Luxury*, Women's Wear Daily, Robert Burke Associates, 4 Aug. 2010

quantity, in fact the leader-follower denomination belongs to the first stage in which companies decide on quality and brand image, the second reason is that products are differentiated from a quality point of view even if they present the same design, in fact, we will see that the leader will produce a high-quality product, while the follower will produce a low-quality version of the leader's design. The equilibrium for this model will be evaluated into vertically differentiated markets (relying on quality and brand image).

### 2.3 A duopoly model

The model that we are presenting, describes the fashion industry as a duopoly. There are two firms: the leader and the follower; at the first stage the leader chooses the quality ( $\sigma$ ) and the brand image ( $\alpha$ ) that customers will consider when buying products. Those choices will result in fixed costs, since they are initial investments and do not vary with respect to changes in quantity demanded of the good; the larger those level, the higher the price it can charge, but also the higher fixed costs for the firm. For the moment we may assume that the leader firm will choose the highest levels of quality and brand image (we will come back to this point later on). Given that the leader chooses the highest parameters, we may also assume that, for the moment, the follower chooses the smallest levels of quality and brand image, in order to differentiate as much as possible from the leader. As a result, the follower firm will not incur in fixed costs, since they do not need initial investments for quality and brand image.

$$\sigma_H > \sigma_L \text{ and } \alpha_H > \alpha_L$$

From now, the leader firm, which has higher parameters of quality and brand image, will be called H, while the low-quality one will be firm L. To simplify the model, we may introduce a new parameter  $\omega$ , which is an average between quality and brand image, and represents the fact that consumers care of both of them when deciding whether to buy a product:

$$\omega = \frac{\sigma + \alpha}{2}$$

With  $\omega_H > \omega_L$

When the firms have chosen their parameters, we can compute preferences of a consumer who either purchases the H-good or the L-good.

$$U_i = Y_i \omega - P \quad ^{12}$$

In the utility function described over there,  $Y_i$  is the income of the consumer,  $\omega$  is the parameter I have already mentioned, and  $P$  is the price of the good. To make it simpler, income is normalized, and included in a bounded linear space, so the lower bound Y-up ( $Y_U$ ) is exactly 1\$ less than the upper bound Y-down ( $Y_D$ ). To simplify we may assume that  $Y_D=0$  and  $Y_U=1$ .

$$Y_D = Y_U + 1$$

$$\begin{array}{ccc} 0 & & 1 \\ \hline & & \\ Y_D & & Y_U \end{array}$$

### 2.3.1 The demand functions

In order to find the demand functions for the H and L-goods, first it is necessary compute the income for which a consumer is indifferent between the two products:

$$Y_i \omega_H - P_H = Y_i \omega_L - P_L$$

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<sup>12</sup> This model is based on Tirole (1988, pp. 296-298)

$$Y_i = \frac{P_H - P_L}{\omega_H - \omega_L}$$

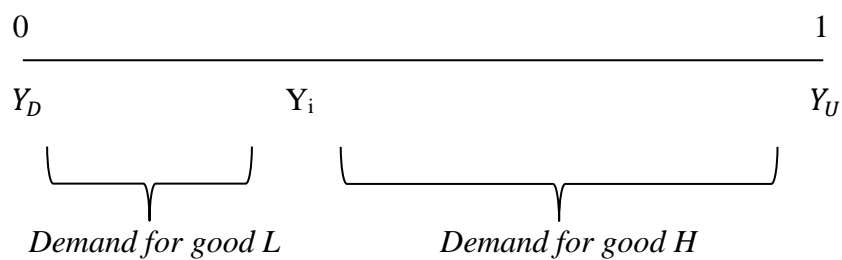
At this point, two further information are needed: the first one is that each consumer buys either one or none unit of the good; the second one is that income is distributed uniformly between  $Y_U$  and  $Y_D$ . If those assumptions are true, the demand functions for each product are computed as follows:

$$D_H(P_H, P_L) = Y_U - \frac{P_H - P_L}{\omega_H - \omega_L}$$

and

$$D_L(P_H, P_L) = \frac{P_H - P_L}{\omega_H - \omega_L} - Y_D$$

The demand for good-H is simply given by the difference between  $Y_U$  and  $Y_i$ , while the demand for good-L is the difference between  $Y_i$  and  $Y_D$



### 2.3.2 Nash equilibrium prices

This step requires one more assumption, that is marginal costs ( $C$ ) are exogenously determined, meaning that they do not depend neither on quality nor brand image,

and are the same for the two firms. This is a consequence of the assumption, that the level of quality and brand image impacts only fixed costs<sup>13</sup>.

Now we can compute profits as prices minus costs, times quantity demanded; for the high-quality firm we also need to subtract fixed costs:

$$\begin{aligned}\pi_H &= (P_H - C)D_H(P_H, P_L) - FC \\ \pi_H &= (P_H - C) \left( Y_U - \frac{P_H - P_L}{\omega_H - \omega_L} \right) - FC \\ \pi_L &= (P_L - C)D_L(P_H, P_L) \\ \pi_L &= (P_L - C) \left( \frac{P_H - P_L}{\omega_H - \omega_L} - Y_D \right)\end{aligned}$$

By maximizing profits in terms of prices, we obtain the best-response functions for firm H and L:

$$\frac{\Delta(\pi_H)}{\Delta(P_H)} = \frac{Y_U(\omega_H - \omega_L) + C - 2P_H + P_L}{\omega_H - \omega_L} = 0$$

$$P_H = \frac{C + P_L + Y_U(\omega_H - \omega_L)}{2}$$

and

$$\frac{\Delta(\pi_L)}{\Delta(P_L)} = \frac{C - 2P_L + P_H - Y_D(\omega_H - \omega_L)}{\omega_H - \omega_L} = 0$$

$$P_L = \frac{C + P_H + Y_D(\omega_H - \omega_L)}{2}$$

From the best responses, we can finally compute the Nash equilibrium prices:

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<sup>13</sup> Avner Shaked and John Sutton, *Relaxing Price Competition Through Product Differentiation*, *The Review of Economic Studies*, London School of Economics, 1982

$$P_H^* = C + \frac{(2Y_U - Y_D)(\omega_H - \omega_L)}{3}$$

and

$$P_L^* = C + \frac{(Y_U - 2Y_D)(\omega_H - \omega_L)}{3}$$

Since we know that  $Y_U > Y_D$  (the assumption was  $Y_U > 2Y_D$ ) and  $\omega_H > \omega_L$ , we can easily notice that  $P_H > P_L$ , as expected. In fact the H-good, which is characterized by higher quality and higher brand image, will also have a higher price.

### 2.3.3 Nash equilibrium profits

After having evaluated Nash equilibrium prices<sup>14</sup>, we can substitute them to compute equilibrium profits for the two firms:

$$\pi_H = (P_H - C) \left( Y_U - \frac{P_H - P_L}{\omega_H - \omega_L} \right) - FC$$

$$\pi_H^* = \frac{(2Y_U - Y_D)^2 (\omega_H - \omega_L)}{9} - FC$$

and

$$\pi_L = (P_L - C) \left( \frac{P_H - P_L}{\omega_H - \omega_L} - Y_D \right)$$

$$\pi_L^* = \frac{(Y_U - 2Y_D)^2 (\omega_H - \omega_L)}{9}$$

### 2.3.4 The first stage decision: quality and brand image

A firm in the fashion industry can decide which level of quality it wishes to enter with, depending on its business model and on the market segment it serves. In the recent years, many firms are entering the industry as fast fashion companies. The

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<sup>14</sup> See paragrafg 2.3.2



reason behind this fact is that the fashion industry presents high barriers to entry. Two of the most important threats are the necessity of economies of scale and product differentiation, as firms need to produce an adequate quantity of items for their target market. On one side, economies of scale are required if a company wishes to contract with manufacturers, as well as to build a strong customer base or sell products to third-party retailers. On the other side, product differentiation is key in order to be competitive in the luxury segment. Companies can almost eliminate barriers to entry by adopting the fast fashion model. By copying luxury designs, they do not incur in R&D costs, essential if the firm is product differentiating. In addition, since fast fashion firms produce low cost products, they minimize product costs, and through new technologies and outsourcing of the manufacture process, they can easily afford economies of scale. I will show that for firms who entered first (leaders) it was more profitable to choose high parameters of quality and brand image, while for those who are entering as followers, it is more profitable to adopt the fast fashion model. In paragraph 2.3 we assumed that the leader firm, which enters the market first, chooses the highest levels of quality and brand image. We will now go through the reasoning behind that decision. First, let us consider the Nash equilibrium profits<sup>15</sup>:

$$\pi_H^* = \frac{(2Y_U - Y_D)^2(\omega_H - \omega_L)}{9} - FC$$

and

$$\pi_L^* = \frac{(Y_U - 2Y_D)^2(\omega_H - \omega_L)}{9}$$

We can easily notice that  $\pi_H^* > \pi_L^*$ , since  $(2Y_U - Y_D)^2 > (Y_U - 2Y_D)^2$ , so the leader firm will want to be the high quality firm when deciding the level of  $\omega$ . Given this consideration, we need to find the level of  $\omega$  which maximizes Nash equilibrium profits for firm H. If we assume that  $\omega$  has a range of value between 0 and 1

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<sup>15</sup> Evaluated in paragraph 2.3.3

( $0 \leq \omega \leq 1$ ), when we want to maximize the profit with respect to  $\omega_H$ , it is easy to see that the profit-maximizing level of the quality-brand image parameter is 1 (which is the highest level it can reach) since the H-firm wants to make the difference between  $\omega_H$  and  $\omega_L$  the highest possible. So the best-response function to the first stage choice is  $\omega_H=1$ .

The follower firm, is left with the low-quality profit so again, when deciding the optimal level of  $\omega_L$ , she wants to maximize the difference between the two parameters as much as she can, thus the best response of the follower firm is  $\omega_L=0$ .

$$\begin{array}{ccc} 0 & & 1 \\ \hline \omega_L & & \omega_H \end{array}$$

If we substitute those values in the Nash equilibrium prices, we have:

$$P_H^* = C + \frac{(2Y_U - Y_D)}{3}$$

and

$$P_L^* = C + \frac{(Y_U - 2Y_D)}{3}$$

We can also find Nash equilibrium profits by substituting the equations for prices that have just been evaluated into those for profits<sup>16</sup>:

$$\pi_H = \left( \frac{Y_U - 2Y_D}{3} \right) - FC$$

and

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<sup>16</sup> From paragraph 2.3.3

$$\pi_L = \left( \frac{Y_U - 2Y_D}{3} \right)$$

## 2.4 The case of Jean Paul Gaultier

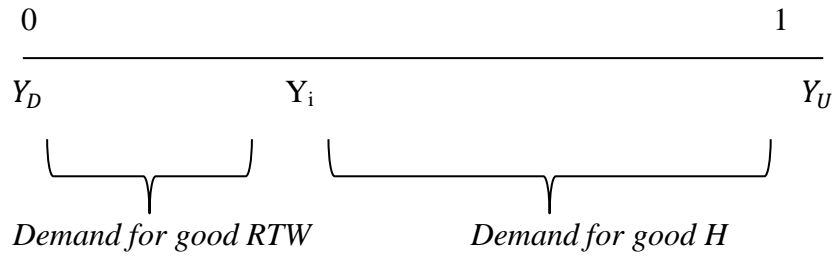
“When Jean Paul Gaultier announced at the beginning of the women’s wear season’s four-ring, four-week circus that this Saturday’s show would be his last ready-to-wear collection, and that he was going to concentrate on couture and fragrance and special collaborations like costumes and interiors instead, it seemed like the end of an era.”<sup>17</sup> With these words Vanessa Friedman, a New York Times’ journalist externalizes the general feeling of loss, left by that strong decision of such a name in the history of fashion. We will now try to analyze the reasons behind his decision from a strategic point of view.

If we consider the duopoly model for the fashion industry previously explained<sup>18</sup>, we can figure out Gaultier’s ready-to-wear line as a medium ranked as regards for quality and brand image. For the purpose of the model, we consider that the RTW line produces just one good, which has  $\omega = 0.5$ , exactly in the middle between the H-good and the L-good (this parameter is an approximation, chosen to simplify calculations). Let us call the good produced by Gaultier’s line RTW-good. We will then evaluate profits for the RTW-line, firstly without the existence of fast fashion companies, then with the entrance of those firms, trying to figure out what made Jean Paul Gaultier undertake that decision. The first part of this model will explain what was the fashion industry like in the past, when fast fashion companies did not exist, and the industry was not provided with fashion items at low cost, so if a consumer wanted to wear something fashionable, he could choose between high and medium-quality items. This part of a model is very similar to the High/Low-quality duopoly, with the exception that the lowest  $\omega$  is no more equal to 0, but instead to 0.5, and that both firms have fixed costs. Demand, prices and profits for this duopoly are evaluated as for the model in paragraph 2.1:

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<sup>17</sup> Vanessa Friedman, *Behind Gaultier’s Goodbye*. New York Times, 2014

<sup>18</sup> See paragraph 2.3



Nash equilibrium prices are:

$$P_H^* = C + \frac{(2Y_U - Y_D)(\omega_H - \omega_{RTW})}{3}$$

$$P_H^* = C + \frac{(2Y_U - Y_D)}{6}$$

and

$$P_{RTW}^* = C + \frac{(Y_U - 2Y_D)(\omega_H - \omega_{RTW})}{3}$$

$$P_{RTW}^* = C + \frac{(Y_U - 2Y_D)}{6}$$

While Nash equilibrium profits are:

$$\pi_H^* = \frac{(2Y_U - Y_D)^2(\omega_H - \omega_L)}{9} - FC$$

$$\pi_H^* = \frac{(2Y_U - Y_D)^2}{18} - FC$$

and

$$\pi_{RTW}^* = \frac{(Y_U - 2Y_D)^2(\omega_H - \omega_L)}{9}$$

$$\pi_{RTW}^* = \frac{(Y_U - 2Y_D)^2}{18} - FC$$

Let us now consider the newer age of the fashion industry, and thus the entrance of fast fashion companies. From now, we will analyze a model with three firms: the high-quality, the ready-to wear, and the low-quality. First, we need to compute the utility function for a consumer who purchases the H-good, the RTW-good and the L-good:

$$U_i = Y_i \omega_H - P_H$$

$$U_i = Y_i \omega_{RTW} - P_{RTW}$$

and

$$U_i = Y_i \omega_L - P_L$$

From the utility functions, we may evaluate the level of income for which a consumer is indifferent between the H and the RTW-good, and that for which a consumer is indifferent between the L and RTW-good.

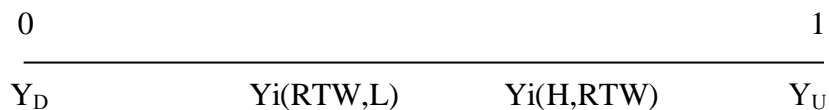
$$Y_{iH} \omega_H - P_H = Y_{iH} \omega_{RTW} - P_{RTW}$$

$$Y_{iH} = \frac{P_H - P_{RTW}}{\omega_H - \omega_{RTW}}$$

and

$$Y_{iL} \omega_{RTW} - P_{RTW} = Y_{iL} \omega_L - P_L$$

$$Y_{iL} = \frac{P_{RTW} - P_L}{\omega_{RTW} - \omega_L}$$



At this point, we will introduce a factor, that we may call  $\varphi$  (with  $0 < \varphi < 1$ ), which represents consumers' preference. We use this factor to explain the fact that those consumers who have a higher budget level will care more of quality and brand image than of price, while for low-budget consumers we observe the opposite situation. Consumers' preferences factor will be added in percentage to  $\omega$  for high-budget consumers, and to price for low budget consumers:

$$(1 + \varphi)Y_{iH}\omega_H - P_H = (1 + \varphi)Y_{iH}\omega_{RTW} - P_{RTW}$$

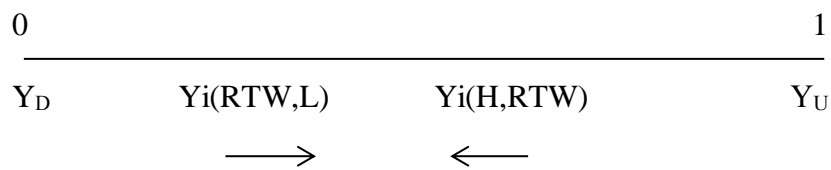
$$Y_{iH} = \frac{P_H - P_{RTW}}{(1 + \varphi)(\omega_H - \omega_{RTW})}$$

and

$$Y_{iH}\omega_{RTW} - (1 + \varphi)P_{RTW} = Y_{iL}\omega_L - (1 + \varphi)P_L$$

$$Y_{iL} = \frac{(1 + \varphi)(P_{RTW} - P_L)}{\omega_{RTW} - \omega_L}$$

The factor will shift  $Y_{iH}$  to the left, and  $Y_{iL}$  to the right, reducing the demand for the RTW-good



So the demand functions for the H,L and RTW-goods will be evaluated as follows:

$$D_H(P_H, P_{RTW}, P_L) = Y_U - \frac{P_H - P_{RTW}}{(1 + \varphi)(\omega_H - \omega_{RTW})}$$

$$D_L(P_H, P_{RTW}, P_L) = \frac{(1 + \varphi)(P_{RTW} - P_L)}{\omega_{RTW} - \omega_L} - Y_D$$

and

$$D_{RTW}(P_H, P_{RTW}, P_L) = \frac{P_H - P_{RTW}}{(1 + \varphi)(\omega_H - \omega_{RTW})} - \frac{(1 + \varphi)(P_{RTW} - P_L)}{\omega_{RTW} - \omega_L}$$

At this step, we need to make two further assumptions: the first one is that the H and RTW-firms' prices are allowed to change in response to the entry of firm L, and the second one is that instead their level of quality and brand image have stay fixed. Now we will evaluate the three firms' profits and then to maximize them with respect to prices:

$$\pi_H = (P_H - C) \left[ Y_U - \frac{P_H - P_{RTW}}{(1 + \varphi)(\omega_H - \omega_{RTW})} \right] - FC$$

$$\pi_L = (P_L - C) \left[ \frac{(1 + \varphi)(P_{RTW} - P_L)}{\omega_{RTW} - \omega_L} - Y_D \right]$$

and

$$\pi_{RTW} = (P_{RTW} - C) \left[ \frac{P_H - P_{RTW}}{(1 + \varphi)(\omega_H - \omega_{RTW})} - \frac{(1 + \varphi)(P_{RTW} - P_L)}{\omega_{RTW} - \omega_L} \right] - FC$$

If we substitute the values  $\omega_H=1$ ,  $\omega_L=0$  and  $\omega_N=0.5$  in the equations, we get:

$$\pi_H = (P_H - C) \left[ Y_U - 2 \frac{P_H - P_{RTW}}{(1 + \varphi)} \right] - FC$$

$$\pi_L = (P_L - C) [2(1 + \varphi)(P_{RTW} - P_L) - Y_D]$$

and

$$\pi_{RTW} = (P_{RTW} - C) \left[ 2 \frac{P_H - P_{RTW}}{(1 + \varphi)} - 2(1 + \varphi)(P_{RTW} - P_L) \right] - FC$$

Then we need to compute the first derivative with respect to prices to get the best response prices:

$$\frac{\Delta(\pi_H)}{\Delta(P_H)} = Y_U + \frac{2}{(1+\varphi)}C - \frac{4}{(1+\varphi)}P_H + \frac{2}{(1+\varphi)}P_{RTW} = 0$$

$$P_H = \frac{1}{2} \left( \frac{1+\varphi}{2} Y_U + C + P_{RTW} \right)$$

$$\frac{\Delta(\pi_L)}{\Delta(P_L)} = 2(1+\varphi)C - 4(1+\varphi)P_L + 2(1+\varphi)P_{RTW} - Y_D = 0$$

$$P_L = \frac{1}{2} \left( P_{RTW} + C - \frac{2}{(1+\varphi)} Y_D \right)$$

and

$$\begin{aligned} \frac{\Delta(\pi_{RTW})}{\Delta(P_{RTW})} &= 2 \frac{1+(1+\varphi)^2}{(1+\varphi)} C + \frac{2}{(1+\varphi)} P_H - 4 \frac{1+(1+\varphi)^2}{(1+\varphi)} P_{RTW} \\ &\quad + 2(1+\varphi)P_L = 0 \end{aligned}$$

$$P_{RTW} = \frac{1}{2} \left[ C + \frac{1}{1+(1+\varphi)^2} P_H + \frac{(1+\varphi)^2}{1+(1+\varphi)^2} P_L \right]$$

Then, we need to solve for the Nash equilibrium prices

$$P_H = C + \frac{1+\varphi}{4} Y_U + \frac{1+\varphi}{1+(1+\varphi)^2} \frac{Y_U - Y_D}{12}$$

$$P_L = C - \frac{2}{(1+\varphi)} Y_D + \frac{1+\varphi}{1+(1+\varphi)^2} \frac{Y_U - Y_D}{12}$$

and

$$P_{RTW} = C + \frac{1+\varphi}{1+(1+\varphi)^2} \frac{Y_U - Y_D}{6}$$

Now we can compute Nash equilibrium profits substituting Nash equilibrium prices into the equations for profits:



$$\pi_H = \frac{1}{4} \left\{ \frac{1+\varphi}{2} Y_U^2 + \frac{1+\varphi}{1+(1+\varphi)^2} \frac{(Y_U - Y_D) Y_U}{3} + \frac{1+\varphi}{[1+(1+\varphi)^2]^2} \frac{(Y_U - Y_D)^2}{18} \right\} - FC$$

$$\pi_L = \frac{(1+\varphi)^3}{[1+(1+\varphi)^2]^2} \frac{(Y_U - Y_D)^2}{72} - \frac{8}{1+\varphi} Y_D^2$$

and

$$\pi_{RTW} = \frac{1+\varphi}{1+(1+\varphi)^2} \frac{(Y_U - Y_D) Y_U}{12} - \frac{1+\varphi}{1+(1+\varphi)^2} \frac{(Y_U - Y_D)^2}{36} - \frac{(1+\varphi)^3}{[1+(1+\varphi)^2]^2} \frac{(Y_U - Y_D)^2}{36} - \frac{1+\varphi}{1+(1+\varphi)^2} \frac{2(Y_U - Y_D) Y_D}{3}$$

To simplify calculations, we may substitute the values for budgets into the equations:

$$\pi_H = \frac{1}{4} \left\{ \frac{1+\varphi}{2} + \frac{1+\varphi}{1+(1+\varphi)^2} \frac{1}{3} + \frac{1+\varphi}{[1+(1+\varphi)^2]^2} \frac{1}{18} \right\} - FC$$

$$\pi_L = \frac{(1+\varphi)^3}{[1+(1+\varphi)^2]^2} \frac{1}{72}$$

and

$$\pi_{RTW} = \frac{1+\varphi}{1+(1+\varphi)^2} \frac{1}{12} - \frac{1+\varphi}{1+(1+\varphi)^2} \frac{1}{36} - \frac{(1+\varphi)^3}{[1+(1+\varphi)^2]^2} \frac{1}{36} - FC$$

If you substitute the value for preference for brand image and quality, which is included in the range between 0 and 1, it is easy to see that profits for the new firm will turn to be negative or very low, thus for Jean Paul Gaultier will be unprofitable to maintain his ready-to-wear line.

### **3 CHAPTER 3: The Piracy Paradox**

The second chapter of this paper ends in showing the dramatic outcome given by the entrance of fast fashion companies, which resulted in cutting off the famous designer's ready-to-wear line.

However, we might be interested in having a look to a second version of this story, that one told by two law professors, Kal Raustiala<sup>19</sup> and Christopher Jon Sprigman<sup>20</sup>. They argue that fast fashion retailers, whose main business is to copy luxury designs in low-cost versions, do not provide any kind of hurt to the fashion industry, but instead the fashion industry experiences a high degree of innovation as a result of such copying activities.

It is important to point out that usually the aim of IP protections is to encourage innovation by preserving the innovator's work, so the two professors of law are introducing a completely new vision of such issues; we will try to figure out the reasoning behind this theory, first explaining the currently available IP protections in the U.S, then by looking at the willingness of designers to file a law suit, and finally we will explore the theory of Piracy Paradox, as they called it, and the reasoning behind it.

#### **3.1 Different types of Intellectual Property Protection**

In the US we experience several kinds of IP protection: trademark, patent, copyright and trade secret. The function of trademarks is to protect the mark, logo, slogan or any distinctive symbol of a brand. The fashion industry provides it, in fact, as we have already mentioned, goods presenting trademark counterfeiting are forbidden by the law. In the fashion industry trademarks are important because they help firm to differentiate from one other through branding strategies. Copyrights instead, serves creative markets such as publishing or music, it allows the inventor to safeguard his work from being copied for a specified matter of time. Designers aim to acquire this kind of protection, since one can consider luxury clothes as a

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<sup>20</sup> Professor at UVA Law School

form of art. There exist two typologies of patents: design and utility. The former protects unique aesthetic features of useful items, while the latter protects innovative useful products. The last form of IP protection is the trade secret; it aims to protect firms against corporate espionage. Some examples of trade secrets are manufacturing process, formulas or recipes.

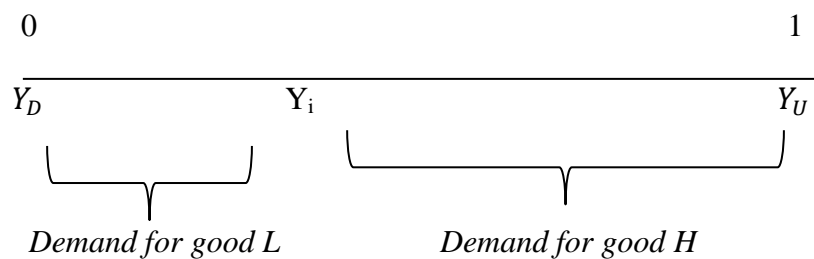
### **3.2 The decision to file an IP law suit**

Beside the existence of adequate IP protections, many designers are prevented from filing suits against alleged infringers. On one side, small firms cannot afford to pay lawyers and carry on expensive lawsuits, as a consequence they decide not to file at all. For these companies, the expected probabilities of winning a lawsuit are lower than legal fees implied in those suits. On the other side, big companies, which own legal teams and enough money to sustain a lawsuit, will file them only if there is substantial evidence in order to prove the infringement. In the end, the decision on whether to file an IP suit or not mainly depends on the nature of the suit, as well as on the size of the company.

### **3.3 The interesting effect of copying**

Raustiala and Sprigman (2006) argue that there is also a hidden benefit arising from the lack of IP protections in the fashion industry. The intrinsic nature of fashion is such that styles and trends follow a continuous cycle and, as trends are copied and widespread, consumers understand it has come the time to switch to something new. It follows that new demand is generated, since old designs that have been copied are no longer special, and thus there is the need for something completely new. All this process results in a higher sale of apparel. They called this concept Piracy Paradox, arguing that it may explain why the fashion industry hasn't adopted strong intellectual property rights. They provide two reasons for why copying is good for the fashion industry "the first is that fashion relies on trends, and trends rely on copying. So you can think of copying as a turbocharger that spins the fashion cycle faster, so things come into fashion faster, they go out of fashion faster, and that makes fashion designers want to come up with something new

because we want something new. We are sick of what's out there”, and also “the second is that copying helps condense the market into something that consumers can understand, so people want to follow trends, they want to be able to dress in a way that's in style; they have to understand that”. From the model<sup>21</sup> we can see that when the industry presents both high and low-quality firms the market is fully covered, meaning that every consumer has access to the same good either in the high or low-quality version:



This situation leads to two phenomenon: induced obsolence and anchoring.

### 3.3.1 Induced Obsolence

In the fashion industry, when a particular design becomes widespread and the public can acquire it easily thanks to copycats or to items whose design is similar to the originals, the trend is over. This process of “accelerated diffusion of design and styles” is called induced obsolence. When a trend is dead, fashion designers have to replace it by innovating and creating new designs and styles. The fact that the fashion industry lacks of copyright protections, makes it easier for fast fashion companies to copy designs, and so to diffuse trends. As styles are widespread, they become obsolete, and thus designers have to create new ones, moving the fashion cycle forward. “In short, piracy paradoxically benefits designers by inducing more rapid turnover and additional sales”<sup>22</sup>.

<sup>21</sup> See chapter 2

<sup>22</sup> Kal Raustiala, and Christopher Sprigman. "The Piracy Paradox." *Virginia Law Review* 92.8 (2006): 1687-777. *University of Virginia Law*. University of Virginia, Dec. 2006.

### 3.3.2 Anchoring

A second result of the low IP environment in the fashion industry is the phenomenon of anchoring. It lets consumers understand when some trends have died out, and when new styles are introduced<sup>23</sup>. Each season there are many new designs and, in order for them to become trends, an adequate number of designers has to produce items that reflect that trend. From the moment in which many designers adopt the same preference, it suddenly becomes a popular trend. Copying, referencing and interpreting designs, which are actions possible because of the lack of IP protections, ends in a situation of “design coherence”, which in turns helps creating trends. The concept of design coherence is very important not only for designers, but also for customers since it informs them on trends which are currently popular. To comment this issue, Raustiala and Sprigman (2006) write “The fashion industry’s low-IP environment is constitutive of this induced obsolescence/anchoring dynamic: designers’ frequent referencing of each other’s work helps to create (and then exhaust) the dominant themes, and these themes together constitute a mode that consumers reference to guide their assessments of what is “in fashion”.

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<sup>23</sup> Kal Raustiala, and Christopher Sprigman. "The Piracy Paradox." *Virginia Law Review* 92.8 (2006): 1687-777. *University of Virginia Law*. University of Virginia, Dec. 2006.

## CONCLUSION

Raustiala and Sprigman (2006)<sup>24</sup> introduced us to a new way of thinking about copies, they explained how copying may have a positive impact on the fashion industry as a whole through the mechanisms of induced obsolescence and anchoring, which speed up trends' life cycle. Chapter 2 assessed how the U.S. fashion industry, the most stricken by the practice of legal copying, is modeled as a duopoly showing that when the copy of designs is allowed, the whole market is provided with a particular design. It follows that everybody can afford buying that particular trend, either from a branded high-quality firm, or from a low-cost version of it. Raustiala and Sprigman (2006) explained how this increased speed in trend adoption leads to its death, and thus to increasing innovation.

This might induce us to believe that where there is an act of copying, nobody is hurt, and the whole society may gain some benefits from it. However economic efficiency not always corresponds to what is fair. The "Big Picture", as Raustiala and Sprigman (2006) defined it, might have some beneficial effects, such as increased demand for fashion items and consequently the relative increase in quantity produced. However it fails to consider those portions of picture which are highly damaged by such companies.

To analyze how designers may suffer from this activity of free-copying, chapter 2 showed the case of Jean Paul Gaultier, a designer who had to cut off his ready-to-wear line because of the entrance of fast fashion companies. Regarding this huge entrance of fast fashion retailers, we can find evidence for which several medium-quality companies had to exit the business, while a second result we may experience is the fact that luxury companies are sometimes forced to cut their lower-priced collections.

In addition, the designers whose items are copied by fast fashion companies may suffer some losses as people might prefer to buy the low cost version of a design, rather than the original one. Even though Raustiala and Sprigman (2006) state that there is no evidence proving those kinds of losses, they argue that people who buy

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<sup>24</sup> See chapter 3

low-quality copies of a fashion item wouldn't have bought the original product even if the copy had not existed.

The "Big Picture" also forgets to mention how fast fashion items are produced. Fast fashion companies, whose features have been amply discussed in chapter 1, are those which base their businesses on providing low cost versions of luxury items. Still, the way they are able to reproduce designs at very low prices are sometimes unethical and include labor exploitation. Moreover, fast fashion companies often choose to adopt less ethical but more exploitative practices in order to be able to charge very low prices. Usually these companies outsource their production process in countries with low manufacturing costs, where labor exploitation is remarkable, and sometimes cause serious damages to their health. This happens as a consequence of inadequate safety investments such as poor ventilation, improper safety gear, too long working days and very low wages.

Such unethical behaviors, together with damages for high and medium-quality designers, may provide serious threats to the positive view explained by the Piracy Paradox theory. As a consequence we may think that governments should intervene both in better regulating labor conditions, and in trying to provide some kind of protections for fashion designers. Stricter regulations are necessary to let the manufacturing process be safer, even though single countries should implement them; yet, since a global unified act is currently unrealistic, it could become a challenge for the future.

Regarding the second issue, that of legal protection for fashion designers, we may believe that if the fashion industry was provided with better regulations, fast fashion companies would be capable of producing fashionable items, but without having the right to completely copy the design as it already happens in Europe. The issue of whether a design has been copied or not is so controversial (even in countries where IP protections for designers already exist) that it is difficult to establish explicit laws, and even more to apply them. It follows that laws, in order to be efficient, should be combined with the designers' ability to create innovative designs and to make them more difficult to be copied without explicit evidence.

This might seem an efficient way to protect designers, while at the same time promoting innovation.

However, even if governments could find a way to protect workers both from unsafe labor conditions, and luxury designers from being copied, there still would be actors suffering as a consequence of fast fashion. They are those firms producing medium-quality items, such as the previously mentioned Gaultier's ready-to-wear line.

The global fashion industry is so widespread, volatile and subject to an incredible number of different factors, that it is difficult to control over changes and developments. Fast fashion seems to be the inevitable result of the current social and economic paradigm that describes the world. After observing the patterns of change, future research will try to predict for which typology of companies the fashion industry will leave a place to.



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