The Existence Phenomenon of Price Discrimination and Suggestions

Yuxi Wu[1,a,*]

[1]*The Affiliated International School of Shenzhen University, Shenzhen, 518000, China*
a. 201001010120@stu.swmu.edu.cn
*corresponding author

Abstract: This paper analyzes the emergence, phenomenon and solution of price discrimination driven by The Times. This paper will analyze the two main categories of price discrimination: gender discrimination and big data killing. Among them, gender discrimination covers the discrimination suffered by women in the labor market and the pink tax, and big data killing includes price discrimination against consumers by taxi apps and housing apps. The purpose of this study is to draw out the problems of price discrimination, let the market pay attention to the problem and protect the rights and interests of consumers. The analysis found that women are often discriminated against based on gender in the workplace, and women pay a much higher price than men in the "pink tax" over their lifetime. At the same time, taxi-hailing software and housing software will take advantage of consumers' ignorance to discriminate in price according to their own conditions. It is hoped that the analysis of this paper can warn consumers of price discrimination, and attract the attention of authorities to protect the interests of the public. The article not only combines the survey of different audience groups, but also covers the results of experiments on the same subject and the experiences of people. According to the analysis, this paper suggests that consumers pay more attention to the market of goods before consumption and compare the prices of different platforms. The regulatory authorities can collect more public suggestions and check the price discrepancy, and target the crackdown.

Keywords: Sexism, Pink tax, Big data kills

1. Introduction

As the main contributor to national GDP and economic development, consumers have greatly influenced the stability and growth of the country. In 2020, due to the impact of the novel coronavirus epidemic, the overall economic growth has slowed down, but the proportion of final consumption expenditure in GDP still reached 54.3%, a new high in recent years [1]. In the case of increasing consumer spending, there is a lot of subtle price discrimination in the market.

In recent years, with the development of Chinese economic reform and the rising material level, people's consumption desire has been greatly stimulated. Looking back at the history of China's economic reform over the years, the economy has maintained sustained growth. In this case, the increase in people's income level stimulates their desire to consume. Under these circumstances, a phenomenon known as price discrimination has emerged in the market and become a bizarre problem.

Price discrimination refers to the situation in which consumers lack information about the market, and the asset holders practice price discrimination through their interests and their own conditions to obtain maximum benefits by charging different fees for the same or similar goods [2].

According to the results of the big data "price discrimination" questionnaire survey released by the Beijing Consumers Association in 2019, nearly 60% of the respondents said they had experienced price discrimination [3]. From the above data, we can see that the existence of price discrimination is a common phenomenon in the process of human consumption. What's more, due to the consumer platform's knowledge of the customer or its monopoly position on the commodity, although some consumers are aware of the existence of price discrimination, they still inevitably to purchase. This article will analyze two main categories of price discrimination (Sexism and Big data kills) and by summarizing the different types of price discrimination problems, the key problems are pointed out and some solutions are proposed.

2. Sexism

By 1978, although China's gross national product had reached 362.4-billion-yuan, China's technology was still relatively backward compared with the world, and its people still lived relatively poor. To address these problems, Deng Xiaoping and other country leaders established a reform movement premised on maintaining the socialist system. This comprehensive reform China's economic system to shift from a planned economy to a market economy [4]. The planned economy limited the quantity of goods and the freedom of the market, while the market economy developed socialist democracy, allowing more free merchants to enter the market, and eliminating barriers. On this basis, the liquidity and acceptance of various markets become higher, and more women enter the market. However, after the reform and opening up of the economic market changes, due to the lack of government restrictions and protection, the unemployment rate has a gender imbalance. Because of the existence of gender differences, the profit of women is reduced. According to the 2011 census, the employment rate of women is 13.8 percentage points lower than that of men. In 2010, the unemployment rate for women was 1.2 percentage points higher than for men [5].

Below is a set of market-free surveys of urban workers around the world. Table 1 shows the change in women's share of the total labor force in each country over time and the percentage of women's wages compared to men's. The data in Table 1 is not related to market influence, the education level of women is almost the same as that of men, and the workers surveyed work in places where the environment is almost similar. The proportion of women in the labor force in each country shows that almost no more than half of women participate in the work force than men. And while women's share of the total workforce has grown over time, it's still tiny compared to men's. Looking at the wages of female workers compared with those of male workers, we find that in Japan, for example, the average salary of female workers is only 50 percent of that of male workers, and this is in many cases, their own conditions are not very different. It can be seen that the average income of female workers is much lower than that of men.

Table 1: The situation of females workers in different countries

Area	Country	Ratio of female labor force to total labor (%)				Female workers' wages as a percentage of the average male workers' wages
		1988	1995	2002	2006	
WESTERN EUROPE	AUSTRIA	41	43	45	46	86
	GERMANY	-	40	-	-	75
	IRELAND	33	-	42	42	72
	HOLLAND	40	-	44	45	84

Table 1: (continued).

	BRITAIN	-	45	46	46	68
	SWITZERLAND	39	42	44	45	65
NORTHERN EUROPE	NORSE	45	46	47	48	82
	SWEDAN	48	48	48	48	85
NORTH AMERICA	US	45	46	47	47	71
	CANADA	44	45	47	47	69
AUSTRALIA	AUSTRALIA	40	43	44	45	76
ASIA	JAPAN	40	40	41	42	50
	CHINA	48	-	46	-	84(1988) 79(2002)

Data source: Allen & Sanders, 2002 and International Labour Organization database

The situation of female workers in different countries (Tabular data were obtained from "Market Competition or Gender Discrimination" by Li Chunling and Li Shi. Relevant data from Allen & Sanders, 2002 and International Labour Organization database.)

3.   Gender Discrimination in the Labor Market

In the labor market, women often face a variety of explicit or implicit discrimination. This part mainly analyzes the price discrimination suffered by women in the labor market from three aspects: entry, resignation, and vocational training. According to the fourth issue of financial and economic research in 2004 by K. Zhang [6], women are less likely to work in jobs that require higher intelligence, and most are engaged in physical work, such as crafts and textiles. Women make up more than half of all workers in these manual occupations, nearly 50% of men in positions requiring intelligence or education, and only about 11% of all leaders are women in leadership positions. And it's not just in these positions, but in managerial or technical positions, where women hold less than half the total number of men.

The proportion of women's wages relative to the number of women is also a major reflection of the gender discrimination women receive in the labor market. In the same town, low-income women are 19.3 percent higher than men, and middle-income women are 6.6 percent lower than men [6]. Even with the same education, hardware and background, women still earn far less than men in the same jobs. Productivity characteristics are important factors that distinguish men and women in the workplace, and many entrepreneurs will take whether they have children, whether they plan to have children, and whether they are married as indicators when they enter or assign jobs.

United States Census Bureau studied price discrimination against women in the workplace because of childbearing issues in 1991. All 30-year-old women with children earn on average 25% less than all 30-year-old men, while 30-year-old women without children in the workforce earn just 5% less than men [7]. From this data, it can be seen that the price discrimination suffered by a woman has a strong relationship with her productivity when her own conditions are no different from those of other employees.

At the same time, as women grow older, their development space in the workplace will be greatly limited. Many older women need to take time to care for the family or her children after starting a family, and work restrictions and high-intensity jobs limit their free mobility.

From the physical level, the physical function of older women will be far weaker than that of men, after a certain age, they lose their competitiveness compared with most people, so the opportunity for

promotion is very little, and some women will choose to give up work and concentrate on taking care of the family.

4. Pink Tax

The Pink tax is another obvious manifestation of price discrimination against women, mainly because women always pay more than men for the same item. Women have invisibly paid a lot of taxes for their gender throughout their lives, earning profits from businesses by raising the prices of products targeted at women. Although products with similar ingredients launched by the same brand will also have the distinction between men and women, for example, the famous Japanese skin care brand SK-II launched face wash and fairy water for men and women, and the charge of these two products is nearly 20 yuan higher than that of men [7]. The shavers available for women on the market are not much different from men's, and the price of these women's shavers is usually higher than that of men. Similar to razors and skincare products, there are bags, clothes and luxury goods, and some products even have different prices depending on the style and color. In a report on the paper news about the pink tax [8], an anonymous netizen mentioned that "during the discount festival, he chose to buy luggage, and when she saw the" Horizon 8 "brand of luggage, she compared the price of 393 yuan black and 549-yuan pink, and found that according to the brightness of the color, the brand will also take different measures on the price." A reporter from the surging news searched the official website and found that glacier powder, mustard green, aurora green, etc. are 549 yuan, and the material is the same compared with other affordable colors. This also confirms the existence of the pink tax, and the pink tax will also adjust the price according to the color of women's preferences [8].

5. Big Data Kills

Big data kill is another indicator that reflects the existence of price discrimination and society, different from gender discrimination is that the existence of big data kill is unrelated to any kind of people and gender. Data kill is the phenomenon that the same goods or services, old customers see the price is much more expensive than new customers. On September 15, 2020, CCTV's second set of financial channels named the big data killing phenomenon of online tourism platforms, which mentioned in the report that online tourism platforms set differentiated prices for tourists with different consumption characteristics on the same product or service under the same conditions. It can be seen that the problem of big data killing is serious enough to attract official attention. This part will analyze the common phenomenon of big data killing according to the two most common aspects of big data killing: taxi software and network platform booking.

Table 2: Big data kill ripe experience survey summary table

Industry category	Experience platform	Experience sample	Different price	Push different
Online travel	Ctrip	5	2	1
	Qunar	5	3	2
	Tongcheng	5	2	0
	Fliggy	5	2	2
Online shopping	Tmall	4	1	1
	Taobao	4	0	4
	JDcom	4	1	1
	Dangdang	4	1	0
Online	Meituan	3	0	0

Table 2: (continued).

Food Ordering	Ele.me	3	0	0
Online Ticket purchase	Maoyan	3	3	0
	Taopiaopiao	3	0	0
Online Taxi hailing	Didi taxi	6	5	0
	shouqi	3	3	0
Total		57	23	11

Data source: Beijing Consumers Association network

Table 2 covers the data of most consumer platforms in China, where a certain number of experimental subjects are used for each platform to test the situation of big data killing. The figure illustrates how subjects were charged different prices for the same item and were pushed different ads and products. The next two parts will also analyze the big data in combination with the data in the figure.

5.1. Didi Taxi

Didi Taxi is a global mobile taxi-hailing platform, which mainly exists in the form of an application on people's mobile phones. Users only need to fill in their destination and departure point, and the platform will automatically generate routes and call vehicles to pick them up. Because the software solved the problem of communication difficulties between passengers and drivers, and saved time and cost, Didi Taxi began to become widely spread.

Authorities surveyed the number of downloads of the app on the Android platform's mainstream app stores as of May 7, 2013, and the results showed that more than one million users had downloaded the app, concentrated in first-tier cities [9].

Under the great influence of Didi Taxi, different prices are generated for different consumer objects in the platform. As can be seen in Graph2, there were six experimenters in the Didi Taxi experiment, and five of them reported that they received different prices. The participants had different phones and had used the app a different number of times. When the user enters the website, the website will analyze the personal preferences and own conditions of the old user, such as mobile phone model, and then give the user different prices for the same journey, which is the price discrimination that often occurs in the taxi software.

5.2. Ctrip &Qunar

After analyzing the phenomenon of big data killing in automotive software, this part will then analyze the travel platform with the same serious phenomenon of big data killing. The main research objects are Ctrip and Qunar.

In the surging news survey, an anonymous netizen claimed that "he often set a specific room in a hotel because of work reasons, a quote when he used a friend's account, found that compared with the hotel based on the same room to their offer, less than 80 yuan." [10]

According to the information of Graph 2, among the five experimenters on Ctrip, one experimenter was pushed to a different hotel or room by the platform, while the remaining four experimenters were pushed to the same hotel and room type, but two of them got different offers.

The phenomenon of big data killing is more severe in Qunar than Ctrip. It can be seen that two of the five experimenters received different pushes, while the remaining three experimenters all obtained different quotes. Due to the development of information technology, the platform will recognize consumers' preferences according to their consumption records, so as to realize price discrimination.

6. Conclusion

After China's economic reform in 1978, the country's leaders carried out a reform campaign to address the country's poor people and sluggish economic market, shifting China's economic system from a centrally controlled planned economy to a market economy where consumers and producers are free. In the case of rapid economic development, there are many profit-oriented capitalists in the market, so the problem of price discrimination has become very difficult.

In this paper, price discrimination is mainly divided into gender discrimination and big data killing of these two directions are analyzed in detail. After losing government protection, female workers face some discrimination problems in the labor market, and women will spend a lot of money on the "pink tax" during their lifetime. According to women's preference for color or style, the merchants will increase the price of the same product in favor of women, so as to maximize their own interests.

Big data kill is the price discrimination generated under the data calculation for the individual conditions of consumers. In taxi-hailing software, personal factors such as using different mobile phone models have become the reasons for consumers to get different quotations for the same journey. Besides, there are many other factors that also affect the interests of consumers. Even if it is the same room type in the same hotel, the platform may discriminate against consumers based on the number of times they use the platform or their consumption orientation. Therefore, in view of many factors, the research of this paper hopes to expand the severity of the phenomenon of price discrimination in social development, and to draw people's attention through data and case analysis, so as to provide help for further solving the problem of price discrimination.

It's important for consumers to know what's going on with the items they want to consume. When the specific price of an item is known, consumers are less likely to be profited by the platform themselves. Big data is mainly the use of the network to quickly capture information, transmit information and analyze information ability for price discrimination, so consumers in addition to vigilant prices, can still pay attention to the security of their own information on the network to prevent leakage. After that, consumers can try to compare the price of an item across different platforms to reduce the possibility of getting caught up in big data.

References

[1] W. Tang, (2022) Consumption Status Analysis of Rural Residents in Anhui Province Based on ELES Model. China Journal of Commerce, Issue 27 , 2022 : 64-66

[2] Y. Ling, X. Yang, (2023) The Dilemmas of Legal Regulation of Algorithmic Price Discrimination in Big Data's Commercial Applications and Its Paths. China Journal of Commerce, Issue 11, 2023: 47-50.

[3] China Consumer News, (2022) Beijing Consumer Association released big data "kill cooked" survey report some platform new and old users shopping with different prices. https://page.om.qq.com/page/OdL3Wuznl8PogIvGH6Cajtrg0?source=cp_1009.

[4] A. Yan, (2023) Review and prospect: Reform and opening up and private economy. People's Tribune, Issue 7, 2023: 20-23

[5] At the Stone Career studio, (2017) The current employment situation for women is still quite grim. https://mp.weixin.qq.com/s?__biz=MzAxMTEwMTUyMA==&mid=2649506817&idx=3&sn=b12d3efad8fc1515f 6635c0629f242fb&chksm=835ed03eb42959282d6050e8e3644d22e5d8b4a3f0b4273997311b9589f7eb3e091365d 313b3&scene=27 .

[6] K. Zhang, (2004) An Analysis of Gender Discrimination Behavior in Labor Market. Research On Financial and Economic Issues, Issue 4, 2004: 74-80

[7]   Y. Hu, (2021) The girl trapped in the Pink tax. In and out of the classroom: High School Edition (A edition), 12: 10-11

[8]   Shanghai Observer, (2023) The same type of the same quality of different prices, female consumers are harvested "pink tax"?. https://export.shobserver.com/baijiahao/html/624017.html.

[9]   Secretarial circle, (2022) Analysis of taxi software status. https://www.wenmi.com/article/pzlxtu03436d.html.

[10]   Integrated China Science, technology net Phoenix net. (2018) Big data kill familiar: the people who know you best hurt you the most. Today Science & Technology, Issue 3: 27-27