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Review Article

Gender-Based Price Discrimination: The Cost of Being a Woman

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Abstract: Women have been oppressed since the beginning of time; however, the past has earned women their rightful position in society. Despite that, there are still traces of sexism that we find in modern society – these traces can be shown through direct or indirect means. One of the major areas that women are still vigorously oppressed in is gender-based pricing. The pink tax is an old phenomenon that has only gained global attention recently. The pink tax segregates women and often causes life-threatening consequences. This paper will analyze the effects of the pink tax through commodities being sold in the world-famous city of New York in the States. The New York City government is the only government that took action to undergo comprehensive research on such an important topic. In addition to that, the paper will also compare the pink tax while making notations on the gender wage gap to fully highlight the injustice women face today. To conclude this paper, policies and solutions will be recommended to work towards the abolishment of the pink tax trend.

Keywords: Price discrimination, Gender based, Tax

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1 Introduction

Price discrimination is the action in which buyers and sellers sell the same product to different buyers with various prices[1]. There are several types of price discrimination: first, second and third. However, there are more lively and evident examples of price discrimination in our society that fall under those three categories like gender, racial and religious price discrimination.

Gender-based price discrimination is so common that it has its own term globally, - 'The Pink Tax'. The pink tax attributes to the additional price added on specific products made for women that can either be homogeneous or alike to men-directed products. These differences are added simply for the presence of simple things like the 'pink' color which indicates that this product is simply targeted to women. Media outlets have taken various platforms to address this issue and how it is a financial burden to be a woman in today's society. Though, the establishment of different versions of similar products is widely accepted amongst both producers and consumers today because it is normalized. However, people can recognize the obscenity that exists within charging an identical product different prices based on gender. The disparity in the price is questioned and deemed unacceptable for all stakeholders in society - excluding the producer of course. Producers have tremendously failed to find answers or justify the reason behind gender price-based discrimination.

Gender-based price discrimination contributes greatly towards gender inequality and has stimulated the establishment of several regulations to promote a gender-equal environment. The UDHR created the Convention on Elimination of all Forms of Discrimination against women (CEDAW) in 1979[2]. This is just one of many globally-recognized rights that establish and promote gender equality in all aspects in life. Hence, by logic, it should be concluded that gender-based price discrimination is bluntly an illegal act.

Media, researchers and activists have established studies that help articulate the gender-based pricing dilemma. In 2014, a French feminist organization released data that portrays the estimated difference women have to pay each year due to the pink tax. On average, an American woman will have to spend an extra $1300 dollars than a man in a year for identical or interchangeable products. Another study underwent by the Times found that women in the UK pay an extra 37%. Many studies have similar claims with extra costs accounting between 7%-42%[3].

The pink tax is a stagnant obstacle we face as a society today. It should ultimately concern both genders. There are several policies that could possibly reduce or even abolish the pink tax as it is much needed. This paper examines the pink tax dilemma and how it is an additional cost on various products like personal care, clothing and even car insurance. The paper will also analyze the role of media, the gender wage gap and the costs of the pink tax on the economy.

2 Literature review

2.1 Types of price discrimination

Pricing strategy is one of the most vital decision of any business all over the world. There are various types of pricing strategies, however the main strategy that is going to be discussed in this paper is the price discrimination strategy. Price discrimination briefly is charging customers different prices of the same product, with various things that vary such as time, segment, age, gender or even user rate. There are many types of price discrimination, for instance first degree, second degree, third degree, bundling, tying and intertemporal discrimination which will be discussed in details later in the paper[4].

Price discrimination brings benefits to the economy as some customers enjoy lower prices, which encourages them to buy more and increase consumption in the economy. Also, it enables the suppliers to manage the demand in the market and prevent congestion during certain periods of time. On the contrary, it also benefits suppliers as their revenues increase which increases profit and encourages more investment - on the long run, this benefits the economy as a whole. Despite the advantages it brings to customers and suppliers, it also harms them in some ways, for instance even though some customers benefit from lower prices other customers are charged higher prices. Price discrimination sometimes is seen to be unfair as the people who are forced to pay higher prices might be the poorest, which increases inequality in the economy. There are few conditions for a firm to be able to price discriminate in the market, some of the main conditions is to have high market power/share, to be able to segment the customers and to respond differently to different price elasticity of demand.

2.1.1 First degree

Also known as perfect discrimination, first degree price discrimination occurs when a firm imposes a price that is differentiated for each unit sold - allowing them to charge the highest price possible. There are not as many firms that use first-degree price discrimination in reality since it is merely impossible to accurately know the maximum price a consumer is willing to pay effectively. However, if this discrimination was truly imposed in real life, the supplier would excessively benefit from abnormal profits because all consumer surplus would be directed towards them[5].

2.1.2 Second degree

Non-linear or second-degree price discrimination is when a firm sets the price based on the quantity being sold. So, if one person buys an ice cream, he is more likely to be charged a higher price than if ten were to buy the same ice cream. This type of discrimination benefits wholesalers, retailers and anyone who generally buys in bulk because they can then achieve greater economies of scale. In this type of discrimination, the relationship between price and quantity is explicitly inverse. The bigger the quantity, the lower the price and vice versa[4].

2.1.3 Third degree

Third degree price discrimination is the most controversial type as it is the act of charging different prices for different customer segmentations. Despite the controversy that comes with it and the absurd amount of exploitation, third-degree price discrimination is the most used type in today's modern world[5].

2.1.4 Bundling

Bundling is one of the various types of price discrimination which depends on connecting and relating products to each other to discriminate the price. When the price of one product is abridged, the consumer buys another product with it as a bundle or package. There are two types of bundling - pure bundling which sets a condition that the product sold in bundle with another product is not sold separately, and the mixed bundling allows customers to buy the product alone or in the bundle based on their preferences[4].

2.1.5 Intertemporal discrimination

Very similar to third degree price discrimination, this pricing tactic revolves around time. The firm basically segments consumers into groups based on their elasticity of demand. Then, the price of the product will fluctuate from time to time[4]. It is applicable on firms that might charge extremely high prices at first, then gradually decrease those prices to skim the market thoroughly.

2.2 Game theory

The game theory is a theory born out of the oligopolistic market. This theory studies how organizations take strategic decisions when there is either cooperation or disparity between them and their competitors. This theory is essential in the oligopoly market because firms are interdependent on each other. Game theory directs the choices firms must make in terms of pricing, levels of production, how much to invest and where to invest. It applies mainly to oligopolies because the acts of one firm influences the other. If firms study the strategies of their competitors, they can analyze the market and make smart decisions to earn maximum profit[6].

There are two scenarios in this theory. The first one observes a scenario in which two competing firms actually cooperate. This is also known as a collusive oligopoly. These firms act together for the sake of dictating pricing and output amongst themselves. This however is not always a success, because one firm ends up breaking the agreement for their own benefit. Despite the indiscretions that may be caused by collusive oligopolies, Stigler, an American economist thought otherwise. He predicted that when firms cooperated and agreed on mutually beneficial terms, they can be strong price makers and hence achieve greater profits. In order to receive such tempting outcomes Stigler stated that there must be three conditions: All firms must agree to the same terms, they must find a way to monitor corruption or a firm's tendency to cheat, they must impose a penalty to those who break the agreement.

The other scenario of the game theory assumes that firms do not agree and therefore do not cooperate. The Cournot model is one that follows this scenario. Assuming that there is a duopoly, the model states that each firm will choose the output that returns maximum profit acting as if the other firm will not change its output. Then, each firm will keep adjusting their output assuming that the other isn't doing the same, until they finally each the equilibrium point. This theory is obviously flawed because it solely depends on the idea that the firms' output would be rigid even though both firms are actually fluctuating their output[6].

The Von Neumann model follows the same concept, but assumes that the first firm changes its output level or price and is granted a chance to lead the entire market and consequently all other firms must follow them. Additionally, the Bertrand model proposes the ideas of the Cournot model but does not play the game on quantity, rather on price. For instance, if we have two firms, A and B, and firm A decides to lower the price of its product, firm B must follow or else they would lose all their consumers to firm A. This happens because both firms offer similar products and people might find the differences between them invaluable and go to the cheaper price[7].

Finally, the Nash Equilibrium theory which proposes that no firm will deviate from its choices even after learning the strategies of its opposition, creating an optimum situation. This is definitely the best case since all firms will be excelling and making profits with their chosen strategy[8]. When every player in the game seeks his/her best strategy while taking into consideration the strategy of other players, which makes the players want to stay at this point as they are all getting the highest profits, they can get with that strategy chosen for each. Thus, Nash equilibrium point is the dream point in the market as all players are optimally performing and getting the highest profit.

2.2.1 Kinked demand curve

Sweezy's kinked demand curve is concerned with how firms are likely to respond to a rivals' change in price in an oligopoly. In the case that a firm increases its price, rivals will not follow. Thus, the acting firm will lose market share and as a result, demand will become elastic and the firm will have less revenue. On the other hand, however, the kinked demand model states that if a firm reduces its price, then rivals will follow to prevent their own loss of market share. In that case, demand will become inelastic and revenues will still decrease as a result of lower prices. This theory disregards any non-pricing factors or the possibility of a collusive oligopoly and that is why its flawed[9].

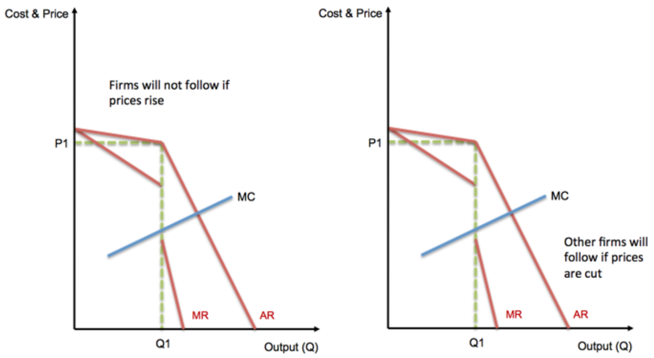

Figure 1. Kinked demand curve (Source: Econtutorials.com)

A cartel is chiefly an action taken by the dominating firms to join together to have more power over the market and to control the prices to increase their profit. However, as cartels are illegal there are no rules or laws to protect the competitors against each other, and the majority of the time it ends up by one participant cheating on the other and stealing market share. Stigler (1964), has encouraged players in oligopoly market to cooperate together in order to have more market power and have the ability to price discriminate, however he stated that there is four conditions for this cooperation which were to make all players on good terms and on the same page, to be aware of any kind of cheating from any player and to set a penalty for any player who cheat or break the agreement. On the other hand, if the players decided to play the non-cooperative game, it is believed that their profits will be much lower.

The concept of cooperative game or non-cooperative game came up from the theory of prisoner's dilemma which is a classical strategy of game theory. Merrill Flood and Melvin Dresher initiated the concept of prisoner's dilemma in 1950, after that Albert W. Tunker completed what they had started and invented a game with prisoners[10]. The prisoner dilemma simply shows all the scenarios that can happen when two criminals are arrested separately and each one is investigated without communicating with the other to force a confession. First scenario that can happen if both prisoners confess each one of them -cooperative game- will take 20 years of prison. The second option if they both didn't confess – cooperative game – then each one will serve only one year of prison then they will be let free. The third case, if one prisoner confesses and the other doesn't – non-cooperative game – then the one that confessed will be released and the other will stay in prison for life.

There are various strategies and concepts of game theory such as dominant strategy and Nash equilibrium. Dominant strategy is a strategy in game theory that seeks to achieve the best balance regardless to the opponent actions, therefore the player with dominant strategy doesn't have to think about what his opponents may do. a player may be strictly dominant or weakly dominant, the strictly happens when one player dominant all available strategies and let the player earn the highest payoff available, while the weakly dominant strategy when one player earns at least same payoff as all other strategies.

3 Comparative study between similar and identical gender-based products

3.1 Clothing

A vast amount of studies has shown that women are obliged to pay more for gender-targeted commodities than men. These can be found specifically in the clothing industry from the most valued products to the simplest form of clothing. Research performed and submitted by New York's Department of Consumer Affairs, named "From Cradle to Cane: The Cost of Being a Female Consumer," validated the dispute that women are subjected to from the day they are born to their last day on this earth. The study got around 40-50 samples of each clothing product and compared price differences between both genders.

Table 1. Gender-based pricing in the children's clothing sector (Source: From Cradle to Crane, The Price of Being a Female Consumer[11])

Products	Girls Price	Boys Price	Price Difference	Percent Difference
Children's Shirts	$15.82	$13.95	$1.87	13%
Children's Jeans	$24.63	$22.83	$1.80	8%
Baby Pants	$18.33	$16.77	$1.56	9%
Onesies	$20.91	$20.07	$0.84	4%
Baby Sweaters	$24.87	$23.39	$1.48	6%
Baby Shirts	$12.58	$12.38	$0.20	2%
Baby Shoes	$20.69	$20.07	$0.62	3%

It is absurd that even children are subjected to gender-based price discrimination. This graph shows slight differences - probably the slightest this paper will show. However, such a difference, even if it's incremental, is completely unjustified. Retailers have absolutely no justification for this. Seeing this difference so early on in life shows the path of exploitation a girl will most certainly endure in her lifetime. However, study shows that two-thirds of parents have noticed this gap and are either boycotting or alternating brands because of these price inconsistencies. The feeling that brands can go as far as manipulating little girls when they are that young reflects greatly on the kind of society we have built today. The children's industry has built mistrust and is literally cheating parents into buying more expensive products because they simply were blessed by a 'girl' and not a 'boy'.

Table 2. Gender-based pricing in the adult clothing sector (Source: From Cradle to Crane, The Price of Being a Female Consumer[11])

Product	Women's Prices	Men's Prices	Percent difference
Dress pants	$75.66	$71.71	6%
Dress shirts	$58.11	$51.46	13%
Shirts	$29.23	$25.51	15%
Sweaters	$63.19	$59.45	6%
Jeans	$62.75	$57.09	10%
Socks	$9.98	$9.73	3%

If the difference between children's clothing is so noticeable, start imagining what it is like in the adult world. It is true that some fabrics used to create women's garments are often more expensive and hence it is reflected on the price of that good. However, the samples being tested here are solely based on basic commodities that have almost equal or slightly variated costs of production. Therefore, the price variation in the table below is still not justified.

Multinational and high-end brands also conform to such price-discriminative trends. The incongruities seen in high-end fashion are shocking and need more attention. The Business of Fashion journal has observed several vigorous price distinctions in high-end brands not only on similar products, but on *identical* ones. Brands like Saint Laurent, Valentino, Gucci, Dolce & Gabbana, and Alexander Wang were caught charging significantly different prices based on gender with price differences reaching an all-time high for the clothing industry – an appalling $1000. In all the samples observed by Business of Fashion, all colors, fabrics, designs and time are identical[12].

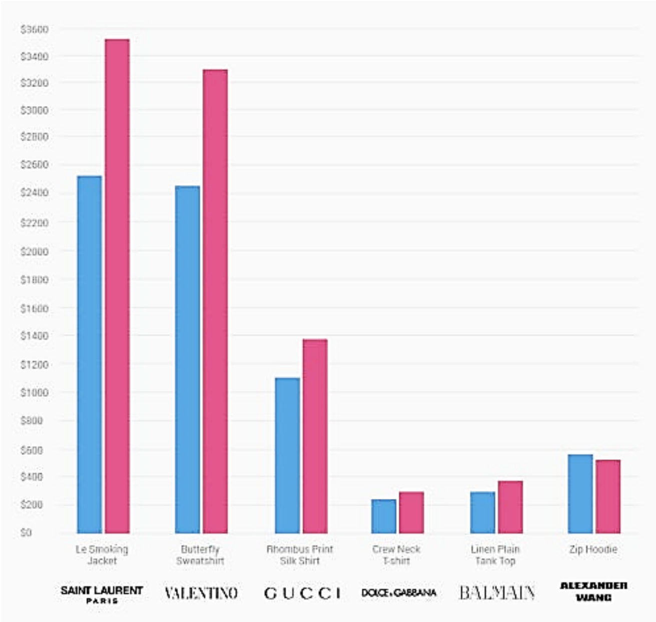

Figure 2. Gender-based pricing in high-end fashion(Source: Business of Fashion, 2016)

When the Business of Fashion journal requested a reply from those brands to explain their extremely discriminative pricing strategy, Valentino and Gucci rejected their request. Saint Laurent replied claiming they have established new policies to promote a more gender-equal shopping environment for their consumers. Balmain never replied to the Business of Fashion's request. Alexander Wang, who charged men more for a sweater replied to the Business of Fashion by articulating how the higher price is only because men require larger sizes and therefore more fabric which increases their overall cost. Nonetheless, gender-based pricing is a shameful act and high-end brands do not suffer the consequences of charging those prices for women because too many women are not even aware of the situation[12].

It does not stop at that for garments. Gender-based pricing has traveled so far that even tariff rates were discriminatory towards women. The United States and the European Union segment manufactured goods based on the gender expected to receive that good. Though this sounds a bit unreal, it is far from it. The US had 86% of their clothing imports classified by gender through their trade commission. Mosbacher Institute for Trade, Economics and Public Policy found that tariffs on women's wear reached 15.1% while men's tariffs were only 11.9%[13]. The 'pink tax' creates a domino effect because the higher the taxes are on feminine products; the more shops are forced to charge women higher prices. A rare instance in which men have higher tariffs exists when dealing with cotton shirts and despite that, women's cotton shirts are still charged a higher price.

The creation of a gender-biased tariff began in the 1830's without any reasoning behind it and no one was really aware of what was going on or cared enough to notice because gender was not a discriminatory topic. However, as time passes by, people have realized the significant consequences of charging women higher prices and have rioted that it was completely unjust and goes against any notion of gender equality. In 2014, when the problem had already been made aware, many brands presented appeals to the US Supreme Court addressing the issue of discriminatory tariffs. The US Supreme Court rejected all appeals[13]. Furthermore, many firms are also purposely escaping price-discriminative accusations. Some brands attempt to justify such price variances by clinging on to the fallacy that a woman spends more time shopping than a man. According to Slate, concluded that men now spend three hours shopping compared to a woman's two hours and a half. Therefore, it is completely irrational to blame higher prices because of extra demand by women. Finally, the clothing industry is still one of the most prominent areas in which sexist prices are enforced. The problem with the clothing industry is that they cannot even be discrete about it. Everything is crystal clear and there is no denying the fact that brands simply charge women more for merely being the 'wrong' gender in today's society.

3.2 Personal care products

Personal care products have the highest percentage difference amongst both genders. Examples of personal care products include: shampoo, conditioner, razors, lotion, deodorant, body perfume and body wash. Since this is the industry that causes the most controversy when discussing the pink tax, many studies were done to observe the differences. Amongst those studies, price disparities were found. To top that, personal care producers are even imposing new ways to discriminate against women than just setting different prices. Merchants obscure the variations of prices by overshadowing it with different sizes and numbers. For instance, a body lotion that is available in a 7-ounce bottle for men could also be available for women at the same price, however, the size would then be around 6.5 ounces for women[11]. So basically, retailers are following the trend of setting the same price, but for different prices. That is how dumb retailers think women are.

Table 3. Gender-based pricing on personal care products for men and women(Source: From Cradle to Crane, The Price of Being a Female Consumer[11])

Products	Women's Average	Men's Average	Price Difference	Percent Difference
Shampoo and Conditioner (Hair Care)	\$8.39	\$5.68	\$2.71	48%
Razors	\$8.90	\$7.99	\$0.91	11%
Lotion	\$8.25	\$7.43	\$0.82	11%
Deodorant	\$4.91	\$4.75	\$0.16	3%
Body Wash	\$5.70	\$5.40	\$0.30	6%

Evidently as the graph shows, the price variations in personal care, especially hair care, are spookily high. Though the prices of personal care products are generally low, they are definitely costly on the course of a lifetime since they are all frequently-bought products. To fully articulate the magnitude of the pink tax, we cannot simply judge based on the price of one commodity. We must judge based on the usage of that commodity while considering the price. On average, a woman spends $1,351 more per year on personal products only.

Personal care products might vary from men to women given the type of synthetic ingredients they are composted of. For example, ingredients that set the scent etc. With that being said, experts have found that these differences in ingredients are not why prices are significantly higher on women simply because of the notion that women are likely to spend more on a specific product than men.

4 Analyzing the gender wage gap

The gender wage gap measures the salary of an average woman compared to an average man for a full year of work. As of 2016, the wage disparity between a man and woman was almost more than $10,000 a year. To articulate this in another way, the study found that the average woman is paid only 80% of a man's salary for the same full-time, yearly work. On top of that, African-American and Hispanic women face farther discrimination. On average, an African-American woman makes 63 cents for every dollar a white man makes. Hispanics make 54 cents for every dollar a white man earns. In general, economists have concluded that the gender wage gap may accumulate a disparity higher than $500,000 in an average women's lifetime[14]. This disparity was calculated for white women, imagine the loss that would be accumulated for African-American or Hispanic women.

Research shows that the gap may be larger than people think. Piketty, Saez and Zucman (2016), three famous economists, found that women do not get paid 80% of a man's salary, but much less at 57%. This new research takes into consideration things that other researchers in the past failed to consider like income tax. The addition of income tax makes the research much more accurate because it shows the disposable income which is basically what consumers live on. The research has other critical factors like the number of working hours, income of the self-employed etc.

The research underwent in New York concerning gender-based price discrimination states that a woman in New York has a 7% higher cost of living[12]. With the wage gap that exists imagine the expenses that a woman has to endure at a lower level of income. This surprising discovery, along with a stubborn pink tax on several, important products, infers that women are much more affected than people had formerly known. Women suffer losses due to the pink tax add on it a stagnant wage gap, women suffer major economic losses throughout their life time.

5 Policy recommendation and conclusion

In conclusion, it is evident that women are subjected to high levels of exploitation in all societies. The perseverance of the pink tax, especially when it is accompanied by distinctions in price, stresses that we must come up with a solution to this critical problem. Similarly, the malicious diligence of the gender pay gap, which has extended effects on a women's life, demands a judicial solution.

To begin with, more research is needed – especially complete studies that only the government can afford. In Egypt, for example, there is absolutely no data on this topic and hence people are often unaware of the exploitation they face. The government should start by following up those drastic actions in order to finally be able to suppress and punish retailers who abuse such power. These results will also strengthen the significance of consumer interaction and public data about gender pricing discrepancies. Making the public aware is actually very efficient and most likely to bring actual change in both pricing and policies.

Maybe it's even about time for women to demand not just pay equality but equity: that instead of earning 100 cents for every dollar, we earn 107 cents. That would help offset all those excessive charges we face. Do not charge women for being the 'other' gender.

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