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Hajar L. Habbal

Lake Forest College, habbalhl@lakeforest.edu

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Abstract

The “Pink Tax” broadly refers to firm pricing strategies and/or government policies that raise transactional costs (usually higher taxes or higher prices) for women. Conversations about the Pink Tax have been steadily growing over the past several decades; people have conflicting views on its existence, causes, and implications, to the point that there are substantive questions regarding its validity. More research is needed to determine where exactly the Pink Tax comes from and what are its true effects. For those who argue that the Pink Tax exists and is detrimental to females, a leading explanation for the transmission mechanism is through the propagation of gender socialization through marketing strategies. Due to the lack of government data that allow for direct measurement of the Pink Tax, this study provides an analysis of consumers’ exposure to marketing. Specifically, this study correlates gender, age, race, marital status, and marijuana use (to proxy for preferences for certain types of behavior) with marketing exposure, to offer support for the claim that the Pink Tax benefits from this transmission mechanism. The findings demonstrate there is a strong inverse relationship between education and marketing exposure, measured by hours spent watching television in a week as a teenager.

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Robert J. Lemke

Second Advisor

Amanda J. Felkey

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Susan M. Long

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An Economic Analysis of The Pink Tax

by

Hajar L. Habbal

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The report of the investigation undertaken as a
Senior Thesis, to carry two courses of credit in
the Department of Economics, Business, and Finance

Davis Schneiderman
Krebs Provost and Dean of the Faculty

Robert J. Lemke, Chairperson

Amanda J. Felkey

Susan M. Long

Elizabeth Benacka

Patricia Thomas

Abstract

The “Pink Tax” broadly refers to firm pricing strategies and/or government policies that raise transactional costs (usually higher taxes or higher prices) for women. Conversations about the Pink Tax have been steadily growing over the past several decades; people have conflicting views on its existence, causes, and implications, to the point that there are substantive questions regarding its validity. More research is needed to determine where exactly the Pink Tax comes from and what are its true effects. For those who argue that the Pink Tax exists and is detrimental to females, a leading explanation for the transmission mechanism is through the propagation of gender socialization through marketing strategies. Due to the lack of government data that allow for direct measurement of the Pink Tax, this study provides an analysis of consumers’ exposure to marketing. Specifically, this study correlates gender, age, race, marital status, and marijuana use (to proxy for preferences for certain types of behavior) with marketing exposure, to offer support for the claim that the Pink Tax benefits from this transmission mechanism. The findings demonstrate there is a strong inverse relationship between education and marketing exposure, measured by hours spent watching television in a week as a teenager.

*To my sister whose anger about razor prices fueled my passion for the subject
and to my parents for pushing me to achieve my dreams.*

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Table of Contents

I. Introduction.....	1
II. Gender Socialization	2
III. Gender-Based Price Discrimination	8
IV. The Tampon Tax	12
V. Specific Examples of the Pink Tax	18
VI. The National Longitudinal Survey of Youth, 1979	32
VII. The Econometric Model	35
VIII. Regression Results	37
XI. Policy Prescriptions	41
X. Conclusion	51
References	53
Appendix: Visual Examples of the Pink Tax	59

I. Introduction

Gender-based price discrimination is a form of economic discrimination that occurs when one gender is charged a different price than the other for identical (or nearly identical) products or services. Within the sphere of gender-based price discrimination, the “Pink Tax” refers to the extra charges placed on products and services that are essentially identical but are marketed separately to men and women (e.g., the price difference between a “male” and “female” deodorant). The name, the Pink Tax, stems from the historical prevalence of products being marketed to women having a tendency to be pink in color. The Pink Tax manifests itself in two ways. First, certain products or services bear an additional tax to the price. Second, which is not literally a tax, firms sell products marketed to women at a higher price than they sell (nearly identical) products marketed to men. In this second case, firms are not charging higher prices on female products out of malice but are following a profit-maximizing strategy that capitalizes on market trends, preferences, shopping behavior, and psychology. Even though a literal tax is not in place, many women feel compelled to pay these higher prices for a variety of reasons. Thus, when the market bears higher prices on “female” products, therefore, a financial burden is being placed on women that is not placed on men, epitomizing social gender-stereotypical norms whether the firm’s discriminatory pricing is intentional or not.

II. Gender Socialization

The Pink Tax arises from the pressure of following stereotypical gender norms in order to fit in society (Smith, 2007). The appropriate term here is called “gender socialization.” Gender socialization is the process by which people learn how they “should” act based on their sex. To be specific, gender socialization starts with the stipulations that biological sex determines an individual's masculine or feminine identity. Gender applies to the facets of self that are non-physiological in nature. For the purpose of this paper, gender will be defined in the traditional sense of being binary (women are females and men are males) as opposed to the more recent convention of gender being on a continuum. Granting that an individual's gender is not independent of his or her sex, gender varies by the culture someone lives in. As such, gender can vary from one culture to another, which is extensively seen through the process of gender socialization (Smith, 2007). Gender socialization then refers to how society intentionally and unintentionally teaches rules, norms and expectations for both sexes. According to UNICEF (2017), gender socialization can be compartmentalized into three different groups of influence levels: structural (e.g. socio-economic conditions), social-interactional (e.g. family) and individual (e.g. biologically). Figure 1 provides a visual description of the entire process of gender socialization working through these three levels.

Structural influences of gender socialization manifest through socio-economic conditions, gender/patriarchal structures, political structures, social structures (like race and class), or global media (John, Stobenau, Ritter, Edmeades & Balvin, 2017). Despite the complexity of the relationship between the different factors affecting the process of gender socialization, it has been demonstrated that, among the predictors, socio-economic

conditions and patriarchal structures strongly affect this process at the macro-level. Patriarchy is a social system in which, generally speaking, men hold much more power than women in all aspects of society, including inside households, at work, and in politics. Consequently men, rather than women, are bestowed political leadership positions, moral authority, social privilege, and property ownership (Sultana, 2010). This relationship at the macro-level necessarily correlates human development and gender equality at the country level (Hausmann, 2014). For instance, the human development index (HDI) is a cross-country measure of human well-being within a country, taking into account economics, health, education, human rights, etc. The UNICEF report (2017) shows that countries with high levels of HDI are typically associated with more gender equality compared to countries with low levels of HDI. In terms of women's well-being, higher HDI implies countries with a high human development index (HDI)¹ are shown to be more gender-equal, which is measured as having good reproductive health, opportunities for gender empowerment, and greater labor market participation for women, (e.g. Norway, Switzerland, Germany) compared to countries with lower levels of HDI that don't afford women these benefits (e.g. Niger, Chad, South Sudan).

However, as direct as this correlation may seem, socio-economic development and gender equality do not necessarily move lock step together. Sometimes, based on geographic location and geopolitical context, countries with a fairly high HDI can have low gender equality levels (e.g. Iran, Egypt). That is, the political landscape also dictates how gender socialization manifests itself. If women and men do not have equal access to

¹ The Human Development Index measures life expectancy, employment, and per capita income in order to rank and divide countries into four tiers of human development.

opportunity, a distinction between genders will almost certainly be perpetuated. As women increase their role in male-dominated areas, such as politics and traditional male-dominated industries like law and finance, a platform for women to be more vocal and to seek the recognition that they deserve is created. That platform also provides the necessary tools for adolescent girls to have same-sex role models further their own development and advancement (Slaby & Frey, 1975). The same goes for women portrayed in public media. The more often women are represented as existing outside their typical gender, the more readily girls will break from stereotypes and contest the gender socialization process that is ever-present in current society (Koenig, 2018). The shift away from women's traditional role in the household to powerful women in the workforce gives even more importance to those women holding professional careers (Smith, 2007).

The social interactional influences of gender socialization that perpetuate gender stereotypes are family, neighbors, schools, social networks and peers. According to several studies, children use gender categorization (male or female) to focus their attention on same-gender role models (Martin & Ruble, 2004). They observe and absorb the behaviors of those models and figure out the differences in behavior between one gender and the other. Learning from these models, children are more likely to exhibit the same behaviors of the role models they identify with, and in so doing, form a strong idea of what their gender "can" and "cannot" do. Moreover, when these stereotypes are perpetuated by model agents like parents, peers, teachers, and figures in the media, children become even more rigid about their belief (Martin & Ruble, 2004).

The last level of influence in the gender socialization process is at the individual level. Humans are all different biologically, physically, cognitively, and personality-wise. Because of individual differences, humans are taught to act differently towards each other in a continuous cycle. If a person is a woman, she will be treated differently than if she was a man. From that difference at the individual level, many stereotypes, created by the process of gender socialization, are perpetuated and affect how one is treated. Even before a baby is born, caregivers may feel the need to appropriate a certain color pallet to the gender of the infant. Paoletti (2012) makes the argument that this particular construction – pink is for girls and blue is for boys – is a fairly recent construct. Prior to the 20th century, white was the popular color for children's clothes since it was simpler to clean and wash. However, the introduction of a gendered color pallet escalated in the 1980s. Paoletti observes that that the demand for (or, at least consumption of), gender-specific baby clothing arose as a result of people wanting to learn the sex of their baby before the birth, which became possible in the 1980s when such tests became affordable. With parents learning whether they were having a girl or a boy, they became more inclined to decorate the nursery long in advance with the "appropriate" color, blue for boys and pink for girls, and toys (Paoletti, 2012). Manufacturers and designers took advantage of the market and offered parents a greater opportunity to “identify” they baby as a baby girl or as a baby boy by offering gendered products for newborns, including clothing, toys, crib bedding, wallpaper, and even baby shampoo. All of this product marketing and consumption behavior perpetuates gender socialization (Paoletti, 1987).

Additionally, after birth, the child is exposed to many terms and symbols that shape their conception of gender roles and stereotypes. Stereotypes, although associated

to a negative connotation, are very useful to navigate the world. Categorizing people into boxes based on similarities can help humans organize their thoughts and make the world a less confusing place. The stereotypes children encounter can be seen through the language people use to describe or talk to a child, in person or portrayed through the media. For example, parents (and family, friends, neighbors, and the media) often describe boys through their physical characteristics, strength and agility, while girls are assessed through the concepts of beauty, fragility and emotions (Smith, 2007). Furthermore, one flagrant way children are differentiated by gender is through the toys advertised to them. Even though some parents have adapted to the changing society and push their child to explore different toys based on their likes and not society's pressure, the world still has a long way to go. It is truly important for model agents to understand the impact of their behaviors and suggestions near children because beliefs about gender are formed at a very young age.

Through one's developmental cycle, gender socialization is continuously perpetuated in everyday life situations. For example, women are expected to look pretty and put together. Throughout the 20th century to the present, society has told women that they had to wear makeup and be "presentable" in the workplace. Even with women's advancement in more powerful positions in the last 30 years (e.g., in banking, the law, medicine, etc.), society still expects women to look and dress a certain way in order to be taken seriously and on par with their male colleagues (Dellinger & Williams, 1997). Presently, this phenomenon is often discussed on blogs and in online forums all across the world, because while women feel the pressure to appear visually pleasing, they also recognize the extreme cost to do so. Even having to purchasing a basic drugstore

eyeshadow and mascara in order to be presentable is an expectation, and an additional cost, that is not expected of men. The cheapest eyeshadow and mascara at a local Walgreens cost \$1.09 and \$1.99 respectively; with taxes, this comes to \$3.33 in Lake County, IL. And, makeup is only one of the countless “requirements” for a women’s social acceptability in the workplace. A professional women will need to have her hair done, wear a professional pair of shoes, wear designer clothes, and own elegant jewelry in order to even be welcomed into some professions, not to say anything about what it may take to earn promotions or gain power (Dellinger & Williams, 1997). Obviously, every decade has its own stereotypical trends, and women were not always required to wear makeup, however, in the 21st century, they are (Zosuls, Miller, Ruble, Martin, & Fabes, 2011). Overall, gender stereotypes are cultivated/promoted and carried throughout society, through gender socialization, which results in the Pink Tax.

At the three different levels of influence mentioned previously, there are forces that affect a certain gender more than another, which can lead to negative economic impacts. At the structural level, there are gender-based differences in education, the workforce, socio-political participation, and reproductive health regulations. At the social-interactional level, gender socialization may manifest itself in marital violence and child marriage. Lastly, at the individual level, gender socialization affects women and men by cultivating different attitudes, beliefs, skills and behaviors across the genders. In this way, gender socialization creates the basis for an unseen bias or expectation being placed on a gender. Specifically, these outcomes of gender socialization in the 21st century continue to perpetuate the foundation of a gender-based price discrimination, also known as the Pink Tax.

III. Gender-Based Price Discrimination

In order to eventually discuss gender-based price discrimination, we must first discuss price discrimination in general.

Price discrimination occurs when identical or nearly identical goods and services are priced differently to different sets of consumers, and the price differences cannot be attributed to differences in production costs such as transportation costs. For example, charging higher prices in Hawaii than in California for avocados grown in California is not price discrimination as long as the transportation cost accounts for the additional price charged in Hawaii. On the other hand, McDonalds charging senior citizens \$0.79 for a coffee but charging \$1.09 for the same coffee bought by anyone else is price discrimination.

Price discrimination is a selling tactic that firms use to maximize their profit. When consumer groups are identifiable, with each group having different average preferences or a different budget or a different willingness to pay for a product, charging a menu of different prices allows the firm to segregate the market into smaller markets, and ultimately charge the profit maximizing price in each market rather than choosing a single price across all markets.

To be technical, when consumer purchase a good or service, except for the marginal buyer, each consumer would have been willing to pay even more at the point of purchase. The difference between one's willingness to pay and the actual price paid is termed the consumer's surplus. Summing each consumer's surplus across the entire market is called "Total Consumer Surplus" by economists. (As a side note, graphically total consumer surplus is the area under the demand curve and above the market price).

Consumer surplus is an important concept for economists as it represents the value of the market to consumers (Liston-Heyes & Neokleous, 2000).

Now, turning attention to price discrimination, the idea is simply that by charging different groups of consumers a different price, the firm can capture some of the consumer surplus. That is, price discrimination is a way to extract more money from consumers and to increase firm profits. Price discrimination is pursued whenever the profit gained by creating segmented markets is greater than the profit earned from selling to a single market. Thus, price discrimination is only effective if (1) different consumer groups are identifiable, and (2) if the groups vary systematically in their willingness to pay for the good, and (3) the high value group maintains relatively inelastic demand for the good so that they are willing to pay the higher prices. Consumers tend to pay a higher price in a fairly inelastic submarket, while consumers in a fairly elastic submarket pay a lower price. Linking this to gender socialization is straightforward. The process of gender socialization tells women that women are supposed to look, dress, and act a certain way, and that as a woman, you should not ignore these social norms. The immediate consequence, therefore, is that women, taken on average as an identifiable group separate from men, have highly inelastic demand for the “necessities” of life in a society that dictates particular behavior.

Economics and the law distinguish between three degrees of price discrimination: perfect-price pricing (1st degree), bulk pricing (2nd degree), and target market pricing (3rd degree). First degree price discrimination tracks each consumer’s demand curve perfectly, as each consumer is charged their willingness to pay. In this sense, first degree price discrimination is demand-based since it depends on the willingness-to-pay of

consumers (Ferrel, Kapelanianis, Ferrell & Rowland, 2018). As first degree price discrimination occurs when a firm sells its product at the maximum price possible for each unit consumed, first degree price discrimination allows the firm to capture all consumer surplus and maximize firm profits. A key feature of first-degree price discrimination, therefore, is that the firm negotiates price with each individual consumer. For example, at a souk, consumers can bid on a product and sellers might be over-pricing it, but the consumer will only pay the maximum they are willing to spend. Pure first-degree price discrimination is rare in the marketplace, because most goods are not so expensive as to afford the firm the ability to assign resources to the negotiation process.

Second degree price discrimination occurs when prices are based on the amount purchased (i.e., buying in bulk). This form of price discrimination happens more often than first degree price discrimination and can regularly be seen at wholesale markets like Costco Wholesale Corporation, Home Depot, and even at grocery stores where per unit prices are frequently lower when buying a larger container.

Third degree price discrimination, which is the most relevant to the Pink Tax, occurs when a firm charges different prices to different identifiable groups of consumers. Such identifiable traits could be gender, location, or age. The idea, as stated earlier, is that firms will want to engage in third degree price discrimination whenever the identifiable groups have a different willingness to pay and a different demand elasticity for the good (Listen-Heyes & Neokleous, 2000). Examples of third-degree price discrimination run rampant. Transportation companies offer discounts to both senior citizens and to students. Airlines charge different prices for round trips that include a Saturday night stay (presumably indicative of leisure travel) and trips that are started and completed within

the same work week (presumably indicative of business travel that is paid for by employers). Many professional sports franchises charge lower ticket prices to veterans. Each of these examples are readily observable in the marketplace.

The Pink Tax, however, is a much more nefarious examples of third-degree price discrimination. Gender socialization leads society to value gender differences, whether real or not. Therefore, although Proctor and Gamble or Johnson & Johnson doesn't charge one price to women and one price to men for an identical product, the result of gender socialization is that companies like this can sell nearly identical products, but marketed to women and men differently, and ultimately be able to charge different prices to different segments of society. Thus, third degree price discrimination can be used to describe clothing, toys, health care products, and other markets where products marketed to women or girls or baby girls cost more than nearly identical products marketed to men or boys or baby boys. Although much more difficult to identify, this type of gender-based pricing is a form of third-degree price discrimination and is called gender-based price discrimination.

Gender-based price discrimination is difficult to identify, and firms and politicians frequently argue against its existence. A firm can easily claim that apparently "nearly identical" products are, in fact, not nearly identical in the manufacturing process. For example, a textile firm that sells nearly identical t-shirts at different prices can claim a difference in pattern or cut or style contributes to an additional cost incurred by the firm which then justifies charging higher prices for female products. Similarly, a health care products company can argue that the addition of a perfume to a women's deodorant justifies a higher price, or even a toy manufacturer can argue that the difference in color

of a children's bicycle took more time or money to produce. Moreover, these arguments might even withstand the scrutiny of a court of law when firms are required to "open their books" to investigators, because firms still control the conversation about what drives particular costs.

Ultimately, though, one of the strongest indicators of the Pink Tax is that, even if there are some legitimate costs that drive up the price of some products marketed toward women, there is no reason to expect the costs to always be higher for women. But this is what careful scrutiny of the market shows. Gender-based price discrimination unjustly exists when almost all markets that target different products for women and men charge higher prices for the women products. This could not legitimately be the case if higher prices were always indicative of higher production costs alone.

As unfair and unjust gender-based price discrimination is, directly taxing women for their gender is even more abrasive to women as it is a visible attack on being a woman. This happens when governments intentionally tax products that are uniquely utilized by women for biological purposes: feminine hygiene products. This is known as the tampon tax, and it is taken up in the next section.

IV. The Tampon Tax

Within the realm of the Pink Tax exists the Tampon Tax. The "Tampon tax" is a popular term used to describe tampons and other feminine hygiene products that are subject to VAT (value-added tax) or sales tax, unlike the status of tax exemption given to other items considered necessities. Tax exemption supporters argue that tampons, sanitary napkins, menstrual cups and similar items are essential items that are

unavoidable for women and should therefore be tax exempt. Advocates argue that women's hygiene products necessary to the hygiene of menstrual cycle should be categorized along with other essential, tax-exempt needs, such as food and personal medical products. There are no necessary product needing a tax exemption for men, including condoms, that could be comparable to female hygiene products because menstruation is biological and "feminine hygiene is not a choice." Given that biological females are the vast majority of buyers of feminine hygiene products, the increased cost paid by women because such products are not tax exempt is criticized as discriminatory against women.

In 2004, the government of Kenya led the way by taking the position that feminine hygiene products are a necessity, and they eliminated the Tampon Tax. More than a decade passed before any other country followed suit. In 2015, after an online petition signed by thousands made its way to parliament, Canada also exempted these products from taxation. And in 2018, India abolished its 12 percent tax on feminine hygiene products. In the case of India, change came about following to years of activism from advocacy groups and celebrities. Superstar actor Akshay Kumar starred in *Pad Man* as the leading male actor and raised awareness for the Niine Movement.² In Colombia, the Constitutional Court unanimously ruled in November 2018 that its 5 percent tax on tampons and pads, on grounds of gender equality, would be abolished. After 18 years of campaigning, Australia abolished its 10 percent tax on feminine hygiene products

² The Niine Movement was introduced as an audacious five-year campaign to engage and educate people of all sexes and ages to address the stigma associated with menstruation and to ensure that every girl and woman achieves their full potential through hygienic management of their time.

effective January 1, 2019, after all Australian states and territories agreed to expressly exclude sanitary products from their goods and services tax. Prior to January 1, 2020, sanitary items in Germany were classified as “luxury good,” and therefore were subject to a 19 percent tax. As of January 1 of this year, however, Germany reclassified sanitary items as “normal goods,” and now such items are subject to a 7 percent tax.

Most countries collect either a value-added tax (VAT), goods and services tax (GST), or a sales tax. The United States is somewhat unique in that that federal government does not impose any of these three taxes, however, many states do as do many local governments such as counties, municipalities, and cities. Nearly all states in the United States apply a state-wide sales tax to the purchase of “tangible individual property” with the exclusion of necessary items such as food, medications, prosthetics, supplies to agriculture, and sometimes clothing. The exemptions vary among the states. However, as shown in Figure 2, not all states have adopted a state-wide sales tax. As shown in Figure 2, state-wide sales taxes range from 0 percent in Alaska, Delaware, Montana New Hampshire, and Oregon to almost 9.5 percent in Tennessee. The lowest state sales tax in a state that has such a tax is 5.36 percent in Wyoming. It is estimated that the burden of sales tax on an average Americans is about 2 percent of their personal income (Bellafiore, 2020). State sales taxes generate almost one-third of state revenue on average, making state sales taxes the most lucrative revenue source for state budgets after personal income taxes for most states (Bellafiore, 2020). Reliance on sales tax ranges widely from state to state. Sales taxes in the south and west are much more significant than in other parts of the country such as New England and the Midwest. For example, only 20 percent of state revenues came from the sales tax in New York, while the sales

tax accounted for more than 50 percent of state revenues in Arizona, California, Ohio, and Texas.

Just as states differ in their overall use of sales taxes (Figure 2), states also differ in the extent to which they tax on feminine hygiene products such as pads and tampons for women. Figure 3 shows that there is a wide disparity in the taxation of feminine hygiene products. Certainly, states that don't have a sales tax do not tax such products, but even some states with a general sales tax have taken steps to exempt feminine hygiene products in order to respect gender equality. As of December 2019, in addition to the five states without a sales tax (Alaska, Delaware, Montana New Hampshire, and Oregon), thirteen states with a sales tax had exempted taxation of feminine hygiene products, including California, Connecticut, Florida, Illinois, Maryland, Massachusetts, Minnesota, Nevada, New Jersey, New York, Ohio³, Pennsylvania, Rhode Island, Utah. In contrast to these states that respect gender equality on this front, 32 states do not. Women in these states, therefore, spend even more on feminine hygiene products. In 2016, when California was still taxing feminine hygiene products, women in California paid \$20 million in taxes on tampons and sanitary products (Garcia, 2016). Armed with this statistic, California Assemblywoman Cristina Garcia pushed forward an agenda for gender equality. A back-of-the-envelope calculation is that women spend, on average, \$7 per month on feminine hygiene products. Multiplied by 40, which is the average time a woman has her period in a lifetime, amounts to spending a total of \$3,360 during one's lifetime on such products. These numbers were reported by the California

³ Utah and Ohio are not pictured in blue in Figure 3 because legislation passed after the making of this map.

Assemblywoman Cristina Garcia when proposing a bill to fight against this inequality. Unfortunately, it did not pass but it set an unprecedented conversation in the government. This initial push led to the development of the bill H. R. 972.

The Tampon Tax has become a big conversation in the government as of 2017 when Congress took up H. R. 972, commonly known as the Menstrual Equity for All Act of 2017. Unfortunately, it did not pass. The bill proposed a tax exclusion, tax credit, and requirements that applied to the purchase or distribution of menstrual hygiene products. The bill amended the Internal Revenue Code in two important ways. First, it would allow menstrual hygiene product purchases to be eligible for reimbursement from flexible spending accounts. A flexible spending account, also known as a flexible spending arrangement or FSA, is a special account to which an individual contributes non-taxable money, and from which pays for certain out-of-pocket health care costs. For example, people who set up FSAs can pay for office visit and prescription co-pays, medical equipment, and even eyeglasses and contact lenses with pre-tax dollars. By design, FSA accounts save the individual an amount equal to the income taxes that would have been paid on the saved money. For example, if one's federal marginal income tax rate is 24 percent, then by paying for a \$50 co-payment out of an FSA, the true cost of the co-payment is 76 percent of \$50, or \$38. Many employers have set up FSA programs that allow their employees to contribute to an FSA if they choose to. Second, H. R. 972 provided a \$120 refundable tax credit for women who use menstrual hygiene product.

H. R. 972 also targeted several policy levers outside the purview of the IRS. For one, it required the McKinney-Vento Homeless Assistance Act to require written guidelines from the Emergency Food and Shelter Program National Board to ensure that

funds would be used to provide women in emergency situations with menstrual hygiene products. Second, H. R. 972 would have required any state receiving a grant under the Edward Byrne Memorial Justice Assistance Grant Program to report annually to the Department of Justice (DOJ) that all female prisoners and detainees in the state had access to menstrual hygiene products on demand and at no cost to the detainees. If no certification was provided to the DOJ, then grant funding would be reduced by 20 percent and reallocated to states that submitted their certifications. Third, H. R. 972 also would have amended the Occupational Safety and Health Act 1970 in order to require the Labor Department to rule that private employers, with no fewer than 100 workers, provide their employees with free menstrual hygiene products.

H.R. 972 was introduced in the House but was never taken up for a vote. Despite this, the simple fact that H.R. 972 was introduced to the House was used by many states as a steppingstone in establishing state anti-Tampon Tax laws or bills. Since 2019, several states have introduced bills to repeal the tax. In particular, Figure 4 shows the extent to which the conversation around menstrual equity for all has been established. Even though only 13 states have officially repealed the Tampon Tax, many others have added legislation in their budget and brought financial aid to those forced to use feminine hygiene products, especially bringing aid to schools, prisons and women's shelters. Upon hearing about the Pink Tax, it is a common misconception that the Tampon Tax uniquely constitutes the Pink Tax. The Tampon Tax is part of the Pink Tax but there are many more aspects to it.

V. Specific Examples of the Pink Tax

The Pink Tax is an outgrowth of gender socialization. Gender-based price discrimination affects everyone differently since it exists in numerous industries, including personal care products, clothing, toys, accessories, insurance, hairdressing, and dry cleaning. According to the New York City Department of Consumer Affairs 2015 study, *From Cradle to Cane: The Cost of Being a Female Consumer*, products marketed to women or girls cost 7 percent more, on average, than comparable products marketed to men and boys. When writing its study, the New York City Department of Consumers Affairs (hereafter referred to as DCA) analyzed more than 90 brands encompassing nearly 800 individual products. The products chosen by the DCA were selected based on how close they were in branding, ingredients, appearance, textile, construction, and/or marketing to minimize differences stemming from gendered marketing and design (DCA, 2015).

Since the argument that gender socialization manifests itself throughout society in terms of the Pink Tax is central to my thesis, it is important to be crystal clear about this manifestation, and in particular to be convincing as to its existence. In order to do that, it is important to carefully present several examples. For brevity, I will demonstrate the pink tax in three different markets – clothing, children’s toys, and health care products.

Clothing

The DCA (2015) listed types of clothes that are essentials in the closet of an average consumer: a combination of casual clothes, professional clothes, and essential items, such as socks and underwear. Seven types of clothing garments were examined:

dress pants, dress shirts, jeans casual shirts, sweaters, socks, and underwear. Individual clothing articles were only chosen if there were two clear versions of the same item, one destined for males and the other for females, by the same retailers. The DCA (2015) took efforts to identify nearly identical apparel items in order to eliminate variations in design and fabric used that could affect quality and price.

The DCA (2015) calculated an average price for each category of clothing item by taking the average of the high and low prices of the items. Overall, they found that women's clothing was 8 percent more expensive compared to men's clothing, except for underwear for which men tended to spend 29 percent more than women. The largest price difference, on average, was in shirts where women paid nearly 15 percent more than a comparable men's shirt. The clothing item with the least gender differential was dress shirts, costing women an average of 13 percent more compared to a comparable men's dress shirt.

One could argue that women's and men's clothing differ in production costs due to the distinctness of build, cut, and design. Because women's clothing tends to be made with a more expensive blend of fabrics and because many men's shirts only have one fabric, this difference in textiles could be the major driver of price differences.

Additionally, how an item is cut—men tend to have straight-cut clothes unlike women's fitted cuts—may result in more fabric waste which would be more costly. However, despite these potential explanations, it is hard to imagine such arguments can account for such an astounding difference in pricing in items that are nearly identical. For example, in Figure 5, the jeans showcased are cut similarly, produced by the same manufacturer, marketed identically and yet have a price difference of \$20.

The DCA (2015) chose children's clothing products in a similar fashion to adult clothing items. Through their research, they looked at baby pants, shirts, shoes, sweaters, onesies, children's jeans, shirts, underwear, and toddler shoes. According to the DCA, on average, girls' clothing items cost 4 percent more than boys clothing items. In seven of the nine product categories (everything but children underwear and toddler shoes), items meant for girls cost more. The greatest price difference in the children's clothing group was girl shirts which cost an average of 13 percent more than boys' shirts. However, other products such as onesies, baby shirts, and baby shoes were priced less than 5 percent higher. Figure 6 produces an advertisement for a children's polo shirt from Children's Place being priced differently (by gender and color) despite the items being otherwise identical. In this case, two nearly identical products but marketed separately to boys and girls cost girls \$2.30 more (or 42 percent more) than boys.

Additional to the DCA research, from personal experience and searches, I have discovered gender-based price discrimination in multiple products. Most shocking to-date is a BabyGap sweater. The sweater is shown in Figure 7. The items in question are a "Disney Minnie Mouse Gap Logo Hoodie Sweatshirt" marketed for girls and a "Disney Mickey Mouse Gap Logo Hoodie Sweatshirt" marketed for boys. Despite having the same amount of graphics, the same copyright,⁴ belonging to and being sold by the same firm, and being sold at the same time, Baby Gap prices the sweater marketed to girls for

⁴ It is commonly known that Disney protects the licensing of its characters based on their popularity. Following this argument, either Mickey Mouse and Minnie Mouse have the same licensing price or Mickey's is more expensive. Therefore, the price difference in these two products cannot be placed on the copyright differences. Put simply, as Mickey Mouse is the iconic Disney character, if either product should have been priced higher, it should have been the Mickey Mouse Gap sweatshirt.

\$5 more than the sweater marketed to boys. Even if through previous research, it has been shown how implicit gender socialization starts at a very early age by wearing certain types of clothing (Pomerleau, Bolduc, Malcuit, & Cossette, 1990). Colors and clothing types can be traditionally classified as masculine or feminine, which means their clothing is seen as definition of their genders (Barnes & Eicher, 1992). Once a year, on October 31, children and adults dress up *the way that they want* for Halloween. Halloween costumes are a way for people, including children, to express what they want and who they identify as. In *The Pink Dragon is Female*, Nelson (2000) explores 469 Halloween costumes for children in order to study the degree to which children's costume wear reproduces and reiterates more traditional gender representations. Out of all the types of costumes surveyed, 8 percent were gender-neutral, 42 percent were masculine, and 50 percent were feminine. Feminine costumes were grouped in a small selection that principally depicted queens, princesses and other representations of conventional femininity, while masculine costumes portrayed villains and heroes, symbols of power, strength, and death. Nelson's (2000) study of Halloween costumes concluded that Halloween costumes propagate gender socialization through the marketing of these products. Starting most clearly with costumes intended for children, gender-distinctive marketing techniques are used by the makers of costumes and sewing designs to encourage gender dichotomization. The marketing behind the production and selling of these costumes demonstrates "gender display" through the pictures of the models wearing the costumes, the accessories, and the colors of the garment.

Toys

Gender-based price discrimination also affects the pricing of children's toys (Klass, 2018). The DCA report from 2015 also investigated the pricing of children's toys. In particular that study considered 106 different toys grouped into six broadly defined product categories of bikes and scooters, general toys, backpacks, preschool toys, helmets and pads, and arts and crafts. DCA (2015) reported that, on average, toys and accessories marketed to girls cost 7 percent more than a comparable product marketed to boys. Of the 53 different pairs of toys considered, products were priced equally regardless of sex only 20 times (38 percent). The product intended for girls was priced higher in 28 times (55 percent). And the product intended for boys was priced higher just 5 times (8 percent). The most gender-equal product category meaning that it was associated with the lowest cost difference was backpacks, with the average price difference between backpacks marketed towards girls or boys was just 0.8 percent or \$0.20. In contrast, the product category with the greatest price differential was helmets and pads with products intended for girls costing 13 percent (\$2.90) more, on average, than identical products intended for boys. As an example, to see how egregious the pricing differences can be in this category, Figure 8 shows the pricing of two bicycle helmets. In particular, at the same Target, at the same time, a "blue" Raskullz Shark Attax Ride Alongz Toddler Helmet retails for \$14.99 while a "pink" Raskullz Unicorn Ride Alongz Toddler Helmet retails for \$27.99. It is difficult to see how the manufacturer could justify a difference of \$13 on the grounds of production costs (almost 87 percent more than the price of the boy's product). Moreover, this is not just an artifact of selecting the most abusive retailing. Figure 9 displays the price of four different bicycle helmets sold on Amazon in April of 2020. In this case, the

dinosaur and Mohawk helmet both retail for under \$20, while a unicorn helmet is on sale for \$23.09 and a Kitty Cat helmet retails for \$24.99

The next category with the highest price discrepancy was for general toys. It can be assumed that since products marketed to girls are not inherently the same as those marketed to boys, the general toys category combined products that were the closest in brand and function intended. To relate it to gender socialization, as previously mentioned, children by searching for gender cues (Martin & Ruble, 2004) associate colors and items to a specific gender early on. As previously mentioned, parents are crucial agents in the process of gender socialization. The home environment serves as a basis for children to develop gender-stereotypical attitudes and expectations. Parents view boys and girls differently across cultures by promoting stereotypical behaviors, assigning different roles in the household, and putting forward different attitudes. Parents also unconsciously purchase toys that promote gender socialization. Rheingold and Cook (1975) examined children's bedrooms which revealed that girls have more dolls and domestic toys, while boys have more cars, educational materials, sports equipment, computers, and military toys.

Through the process of gender socialization, society establishes guidelines for children to associate certain toys with a gender. The toys marketed to girls are related to dolls (which may portray unethical beauty standards, e.g., Barbie Dolls), fairies, cooking kits, and other toys that facilitate play that lets girls pretend to be a mother and wife, cooking, cleaning, keeping house, and raising children (Huston, 1985; Smith and Daglish, 1977). During their childhood, boys are pushed to act more “tough” and to prefer toys that are red or blue which is what society considers a symbol of their masculinity. They

are taught to love cars, dinosaurs, and fighting toys (i.e., pretend swords and guns), and are told it is acceptable to pretend to be ninjas, astronauts, policemen, and firemen (Fagot, 1988). Play themes also vary according to gender; boys list cowboys and soldiers as their favorite games, while girls list playing house and school play as their favorite activities (Sutton-Smith, Rosenberg, and Morgan, 1963). Due to the depiction of what is “appropriate” for a gender through marketing tactics, it is common that many toys and play activities are associated with a specific gender. The same way Halloween costumes were marketed differently to girls and boys, similar stereotyping occurs with toys. The marketing itself, is also quite intentional. Peretti and Sydney (1985) found that bikes, chemistry sets, and plastic swords, were much more likely to include images of boys in television ads, store catalogs, and print ads. Similarly, advertisement for dolls and pretend play for housekeeping and school were more likely to include images of girls.

Surprisingly, toys are much more gendered now than 50 years ago. From the 1920s to the 1960s, toys marketed towards girls were heavily focused on nurturing and domestic tasks (Figure 10), while toys marketed towards boys were heavily focused on building and working (Figure 11). In the 1970s, however, with waves of feminism facilitating women breaking stereotypes, marching for equality, taking control of their reproductive rights, and entering male-dominated professions, toys became more and more gender-neutral as well. Figure 12 shows two advertisements in the 1970 Sears & Roebuck catalog in which a girl is featured in an advertisement for toy tools, and a boy is featured in an advertisement for kitchen toys.

Then, in 1984, a surprising event happened in Congress that radically shifted the way toys would be marketed to children to this day. Prior to 1984, the federal

government, working through the Federal Communications Commission (FCC), limited the amount of advertising that television stations could target toward children. In 1984, the FCC removed these regulations which affectively allowed the marketplace to now determine and provide television programming for children. In 1988, politicians created a bill that would limit advertisements during children's programming to a total of 12 minutes an hour on weekdays and 10.5 minutes an hour on weekends. The bill also required broadcasters to provide an educational and informational purpose to children's programs in order to secure a broadcasting license renewal (Molotsky, 1988). In 1988, this bill passed Congress, however, after strong pushes from pro-advertisement lobbies, President Reagan formally pocket-vetoed all previous regulation aimed at limiting children's exposure to advertising on the grounds that "the Constitution simply does not empower the Federal Government to oversee the programming decisions of broadcasters in the manner provided by this bill" (Reagan, 1988). Overall, the deregulation of children's television broadcasting enabled toy manufacturers to create more advertisements for their products, and to air them more often and during a wider variety of programs (Molotsky, 1988). With deregulation of advertising to children, gender became an incredibly significant differentiator between shows and the toys that were advertised during their airtime. Broadcasters would highlight specific toys in commercials and certain programs to entice children to purchase those toys. With those changes, gender-neutral ads became scarce, and gendered toys became the new norm in the marketing world. With the deregulation came also the lack of rules surrounding the type of advertisement and the length of the advertisement. Very quickly, children were exposed to 11 minutes of advertisements per hour on weekends and 14 minutes per hour

on weekdays (Molotsky, 1988). Many reports from the House Committee on Energy and Commerce predicted that at that rate, millions of children would have invested more time in front of a television screen than at a school by the time the child heads to college. Children would have been faced with over 200,000 unregulated television advertisement over their entire childhood (Molotsky, 1988). After President Reagan left office and President George H. W. Bush was elected, rules and regulations changed. In an attempt to reregulate an industry that was once deregulated, Bush's administration introduced the Children Television Act. Even though this act resembled the 1988 act, it had become a more pressing issue due to the extreme deregulation of advertisement. The Children's Television Act mandated that all programs must be focused on the children's educational and informational needs. The act also reduced the amount of time that broadcasters could spend promoting advertisements during children's programs. FCC regulations restricted the amount of ads to 10.5 minutes per hour on weekends and 12 minutes per hour on weekdays (FCC, 2019). These appalling numbers from reports of the House Committee on Energy and Commerce pushed politicians from both sides to pass the act in Congress. It was then signed by President Bush. Unfortunately, to this day, the re-regulation of the television advertisement world didn't stop the propagation of gendered-marketed toys. Television's increasing popularity in the 1990s, due in part to expanded access to cable television, programs continued to advertise toys according to gender norms, dolls for girls and cars for boys (Klass, 2018).

Presently, advertising to minors remains largely unregulated, and now with the introduction of the internet and social media, manufacturers have a broader access to children. Prior to the 2000's, advertisements were predominantly in newspapers, on

radio, on television, in print catalogs, and in mailings. The regulation of these means of communication were hard yet achievable. While all of these mediums still exist, advertising is now also ever-present on the Internet. With the popularization of social media, the regulation of advertising targeted to children on these outlets is nearly impossible if not actually impossible. Through social media, gender socialization is continuously propagated through unregulated advertisement and reach children at an impressionable age. The upcoming generations are more and more connected as time goes by. Advertisement is now everywhere, from a banner ad on a popular game app like Subway Surfer, to advertisements placed in Facebook feeds and wove into YouTube videos, to product placements throughout social media outlets. Now, 32 years later, because advertisement is even more targeted to individuals where gender is known, the degree to which advertisements can extend gender socialization is even greater and both producers and consumers should stay wary of its effects on society.

Global entertainment industries such as Disney have a strong effect on children's toys since it dominates the children's entertainment industry. Auster and Mansbach (2012) recently found that all toys sold on the Disney Store's website in the United States were explicitly categorized as being "for boys" or "for girls." Some toys appeared on both lists even though these toys were not marketed overtly as "For Both Boys and Girls" or "For Children." The authors then set out to better understand the toy characteristics that were associated as being "for boys" or "for girls." Not surprising, Auster and Mansbach (2012) established that the type of toy (e.g., doll vs game vs puzzle vs stuffed animal) and the colors of the toy most clearly reflected traditional gender stereotypes and activities. Through the propagation of these gender stereotypes via toys, children learn

how to differentiate activities by gender which promulgates gender socialization. Toy producers have the potential to sell toys in a more gender-neutral way, such that, for example, action figures and cooking toys could be marketed to boys and girls in the same way. Auster and Mansbach (2012) argue that companies could also adjust features, such as color, to make some toys more appealing to both boys and girls by using gender neutral colors such as yellow and orange. This proposal allows for improvement, but it also reflects the continued influence of some colors on gender distinctions and other characteristics which inherently perpetuate gender stereotypes (Auster and Mansbach, 2012).

There are signs that retailers are beginning to respond, but maybe not in very meaningful ways. In 2015, Disney removed gender labels from its costumes and the home page of their website no longer separates products by gender (Figure 13), and Target removed gender labels from their toy aisles. Despite these actions, however, both companies still separate toys by aisle or store section as they always have, just without gendered labels. Although some retailers like Walmart and Target may be trying to respond to consumer preferences to not blatantly gender products aimed at children, the fact is that products remain gendered, especially in terms of coloring, style, and name (e.g., dinosaur vs unicorn helmets). More importantly, retailers have failed to address the price differentials between nearly identical gendered products. The pink tax, as demonstrated in the pricing of children's toys and products, whether due to gender socialization or gendered marketing or a combination of the two, creates an unnecessary financial burden on girls and parents.

Personal Care Products

Personal health care products also place an unnecessary financial burden on women. The Department of Consumer Affairs 2015 report evaluated 7 types of personal care products: hair care (shampoo and conditioner), razor cartridges, razors, lotion, deodorant, body wash, and shaving cream. The DCA (2015) concluded that personal care products marketed towards women cost an average of 13 percent more than the same products marketed to men. The subcategory that had the highest price difference was hair care. Women's haircare products (i.e. shampoo and conditioner set) sold for an average of 48 percent more than comparable men's haircare products. Unlike women's hair products, men's shampoos and conditioners are frequently marketed as a 2-in-1 package, so women are required to buy both a bottle of shampoo and a bottle of conditioner to achieve the same effect without buying only one bottle for both products explicitly labeled "For Men."

The Pink Tax, though ever-present and quite large when looking at hair care products, is also substantial in other personal care products. In the DCA report (2015), razors and razor cartridges were the products with the second largest gender price discrepancy, with an additional average of 11 percent more expensive for women. Many of these products are produced by the same manufacturer but despite being nearly identical, they are priced and marketed differently. For example, Figure 14 shows two identical razors made by Gillette. They both provide the same number of cartridges refills, come from the same manufacturer, are being sold in the same store, and at the same time, and yet they are priced differently. In multiple interviews, Gillette admitted

that the price difference of these products is only due to the different designs created to satisfy the needs of different markets (Daily Mail, 2019). These different markets are based on gender, which makes these products a perfect example of gender-based price discrimination. Nowadays, the need for women to shave their bodies, due to gender socialization, pushes them to purchase more razors and thus creating a different demand curve (Bernazzani, 2017). The price difference in these products, made necessary through gender norms, is unfair to customers since the product is the same and serves the same purpose.

Additionally, the example of deodorant is also popularized due to the daily usage of this necessary health care product. A standard stick of Secret deodorant that is marketed to women is 2.6 ounces and is typically more expensive than a standard 2.7-ounce stick of Degree deodorant that is marketed to men even though Proctor & Gamble makes both products. Only Proctor & Gamble really knows the costs of production, marketing practices, and the source of the price differences. But even so, even though there could be manufacturing reasons for any one price difference, it is difficult to imagine a production argument for why products intended for female consumption are consistently more expensive to produce compared to products intended for men.

Concluding Comments on the Pink Tax and Motivating the Data Work

The legality behind gender-based price discrimination has been a topic of debate for the past 30 plus years in many countries, including in the United States, because not everyone agrees that such pricing and/or marketing strategies are a form of gender discrimination. Some believe the empirical observation of a systematic difference in

pricing by gender is a result of free-market behavior, while others believe such price differences are propagated by, and exploitive of, gender stereotypes. Others may also question the existence of gender socialization, and, even if it exists, argue that women are in fact choosing to pay more for their professional products when they could instead choose to purchase products intended for men or to simply ignore society's gender-based expectations. Additionally, it is impossible to judge with certainty if certain products are truly identical since every aspect of its production, from packaging to marketing, can affect how costly it is to produce a product.

Currently, no national dataset that I am aware of asks questions that allow one to directly test for the existence or effects of the Pink Tax. As a result, my econometric work asks a different question: does exposure to marketing, measured by how much television one watched in high school affect one's education and income later in life? It is important to look at the exposure of marketing, because of the argument that marketing plays a strong role in the transmission of gender socialization. There is literature detailing effectiveness of marketing. Churning (2008) looks at whether children are more susceptible than adults to marketers' messages, and if children can successfully push their parents to purchase one particular product over another. By looking at exposure to advertisements, age, gender, race and vocabulary (to control for a child's ability to understand the advertisement), Churning (2008) concluded that exposure to commercials significantly intensified children's preferences for the advertised product. She also established that gender exacerbates the effect of marketing as well (i.e. girls are more affected than boys). Grier, Mensinger, Huang, Kumanyika and Stettler (2007), reached similar conclusions regarding marketing throughout the fast-food industry.

Although a serious econometric analysis of individual behavior and the Pink Tax will need to wait for a data set designed to better understand preferences and shopping behaviors, at the crux of the Pink Tax is the role of marketing (especially targeting adolescents). If marketing is not present or not effective, this toll of gender socialization will be mitigated. However, if advertising is found to be particularly influential, especially among adolescents, then public policy and regulation may provide the best option to address the harm caused by such behavior. If so, good first steps in attempting to eliminate the Pink Tax are (1) to quantify the extent of marketing to adolescents, and (2) to determine how people with more exposure to marketing at a young age act differently than those faced with less exposure. This empirical work is carried out in the next three sections. Section VI describes the data for the analysis, while section VII presents the empirical model. The results from regression analysis are then discussed in section VIII.

VI. The National Longitudinal Survey of Youth, 1979

My research uses the National Longitudinal Survey of Youth 1979 (NLSY79). The NLSY79 is a panel data set that follows the lives of a sample of American youth born between 1957-1964. Data are available from 1979 (round 1) through 2016 (round 27). Participants were surveyed annually from 1979 through 1994, but since then have been surveyed in every even-numbered year. This research uses data from the 1981 and 2006 surveys, because these year target certain ages and/or ask particular questions.

Many research papers that ask questions over one's lifetime use the NLSY 79, because it is a relatively complete and comprehensive panel dataset. Unlike most of those

papers, my research imposes a rather severe sample restriction. Because I am interested in exploring the relationship between media exposure in adolescence and adult behavior, I cannot use all of the observations in the NLSY 79, as the respondents ranged from 14 years old to 22 years old in 1979. As will be seen shortly, the NLSY 79 only asked about marketing exposure, as proxied by hours spent watching television, in 1981. Therefore, I restrict the sample to only those respondents who were 16 to 18 years old in 1981, because many respondents older than this would no longer be living at home or could be away at college during the survey week.

The descriptive statistics for all of the variables used in the econometric work are reported in Table 1. The top panel of Table 1 includes variables collected in 1981 when the respondents were in 16 – 18 years old, and the bottom panel includes variables collected in 2006 when the respondents were 41 – 43 years old. The survey question most representative of marketing exposure is total hours spent watching television “last week,” which was asked in 1981. The responses to this question range from 0 to 96 hours with a mean of 14 hours. To allow for more flexibility with functional form when predicting college graduation and income, five television-watching dummy variables were created: those who did not watch TV last week (7.18%), those who watched 1 to 7 hours (35.2%), those who watched 8 to 21 hours (38.0%), those who watched 22 to 34 hours (10.1%), and those who watched more than 35 hours (9.6%). The remaining variables collected in 1981 were all demographic variables. As mentioned above, the sample is restricted to the 2,175 respondents who were between the ages of 16-18 in 1981, of which 48.7 percent were male and 51.3 percent were female. The NLSY79 also asked everyone their race,

and only retained those reporting as Black (29.3%), Hispanic (19.8%), or White (50.9%).⁵

In addition to the 1981 teenage variables⁶, data was also taken from the 2006 survey when these same respondents were between the ages of 41-43 and in the prime of work life. The 2006 survey asks respondents about their total education to date, categorized by the highest degree earned – no high school degree (9.1%), high school degree (44.0%), some college (24.3%), college degree (11.4%), and holds an advanced degree (11.2%).

Each respondent was also asked their employment status. Their responses were grouped into three categories: employed (78.7%), unemployed (5.10%), and not in the labor force (16.2%). Total income earned in wages and salary in the calendar year of 2005 was reported for the 1,712 respondents who reported being employed. Average income, among those employed, was \$47,658.

The 2006 round of the NLSY 79 also asks respondents about their current marital status. For simplicity, the responses have been sorted into four dummy variables: married (58.2%), single (17.8%), divorced or separated (23.2%), or widowed (0.8%).

The econometric analysis aims to determine the behavioral relationship between watching TV as a teenager and labor market outcomes (i.e., education attained and income) when in ones' early 40s. In order to better control for idiosyncratic preferences

⁵ With only about 8,000 respondents in the sample, and with less public awareness of racial sensitivity, the organizers of the NLSY 79 restricted race to black, white and Hispanic. This unfortunate omission continues to be regretted by researchers to this day.

⁶ The NLSY 79 asks a handful of questions but only in 1979. Further research could attempt to control for parents' wealth so that parental involvement does not proxy for parental wealth.

and unobserved heterogeneity, it is important to control for some idiosyncratic choices that might also be related to labor market outcomes. The best choice for this in the NLSY79 is a measure of the respondent's lifetime use of marijuana. In particular, respondents were asked at various times how many times in their lifetime have they smoked marijuana. The question was last asked in 1998, when the respondents were 34 – 36 years old. Responses were separated into four categories: never used marijuana (36.4%), used marijuana at most ten times during one's lifetime (30.0%), used marijuana more than ten but fewer than fifty times (10.6%), and used marijuana fifty or more times (23.0%).

VII. The Econometric Model

The econometric work explores three relationships: (1) explaining the amount of television watched as a teenager, (2) explaining the amount of education attained by the age of 41-43, and (3) explaining labor earnings at the age of 41-43. These last two regressions will include marketing exposure (as measured by teenage television watching) as explanatory variables. Although the entire set of regression results will be interesting and possibly informative for policy proscriptions to address the Pink Tax, I am most interested in the relationship between education and marketing exposure.

The first regression model explains the hours of television watched in a survey week in 1981 as a function of several demographic variables. Specifically, the regression model for individual i is:

$$\text{Hours of TV}_{1981,i} = \beta_0 + \theta X_{DEM81,i} + \epsilon_i$$

where θ is a vector of coefficients, X_{DEM81} is a matrix of the variables including age in 1981, gender, and race, and ϵ is shock term with the standard properties.

The second model uses a linear probability model to estimate whether a person has attained a college degree by 2006 (aged 41 – 43). For robustness, an identical model is estimated where the dependent variable is whether a person has attained an advanced degree (beyond college) by 2006. Specifically, the regression models for individual i are:

$$CollMore_i = \beta_0 + \beta_1 \text{Hours of TV}_{1981,i} + \theta X_{DEM2006,i} + \epsilon_i$$

and

$$AdvDeg_i = \beta_0 + \beta_1 WTV_{1981,i} + \theta X_{DEM2006,i} + \epsilon_i$$

Both of the education models are estimated twice, once when television watching (WTV) is measured in total weekly hours and once when television watching is captured with the previously defined categorical variables, with “watched no television” being omitted from the regression. The other independent variables, $X_{DEM2006}$, include gender, race, age, age squared, lifetime marijuana use measured in 1998, and marital status in 2006.

The third econometric model estimates (logged) earned income in 2005 as explained by the same demographic variables as the education models but with education categories also included as explanatory variables. Thus, the third econometric model for individual i is:

$$Logged\ Income_i = \beta_0 + \beta_1 \text{Hours of TV}_{1981,i} + \theta X_{DEM2006,i} + \alpha X_{EDUC2006,i} + \epsilon_i$$

As with Model 2, Model 3 is estimated twice, once with hours of television watched as the independent variable and once with the dummy variables.

Peterson (2008) argues that, because academic activities are not frequently emphasized on television in terms of content or advertisement, watching television

negatively affects scholarly goals and is correlated with lower graduation rates.

Following Peterson's argument, the more one watches television, the lower should be the probability one will have graduated college or completed an advanced degree by 2006.

Peterson's argument would also suggest that there is a negative relationship between television watching as a teenager and earning in one's 40s. This relationship, however, is a little more tenuous as the effect of watching television in one's teens has an indirect effect through education on incomes later in life but also might have a direct effect as well. Because both education and television watching are controlled for in the regression, the regression results will allow for an estimate of the direct effect.

VIII. Regression Results

The OLS estimates for predicting weekly hours of television watched in 1981 are reported in Table 2. Teenage girls are expected to watch 2.17 more hours of television in a week than are comparable teenage boys. Black teenagers are predicted to watch 1.82 more hours of television in a week than are comparable white teenagers. The difference between Hispanic and white teenagers, however, is negligible and not statistically significant. Thus, although the model is in part due to a paucity of data, there is evidence that exposure to media varies by identifiable groups.

The OLS estimates for predicting educational attainment are presented in Table 3. There are four sets of results. Columns (1) and (2) estimate the probability of completing a college degree or more, while columns (3) and (4) estimate the probability of completing an advanced degree. Furthermore, models (1) and (3) include total weekly

hours of television watched, while models (2) and (4) include weekly hours of television watched in categorical dummy variables.

The results indicate that race, smoking too much marijuana, marital status, and watching television are all statistically significant predictors of whether or not the respondent had earned a college degree or more (columns 1 and 2) or earned an advanced degree (columns 3 and 4) by 2006. Specifically, a black person is expected to be about 14 and 7 percentage points less likely to obtain a college degree or an advanced degree respectively compared to a white person. The estimates are even slightly higher for a Hispanic person as they are almost 17 and 7 percentage points less likely to obtain a college degree or an advanced degree respectively compared to a white person.

Although only included to capture idiosyncratic preferences, the relationship between marijuana usage and education attainment is interesting. Surprisingly, there were no significant differences for lifetime marijuana usage with educational attainment unless the person reported having smoked marijuana 50 or more times in one's lifetime. Among that segment of the population, frequent smokers are expected to be about 7.5 percentage points less likely to obtain a college degree and around 4 percentage points less likely to earn an advanced degree compared to a person who never used marijuana.

Interestingly, marital status in 2006 is also correlated with educational attainment. A single person is almost 7 percentage points less likely to have obtained a college degree and almost 5 percentage points less likely to earn an advanced degree compared to a married person. Similar patterns with even greater effects are found when comparing divorced and separated or widowed households to married households. This is partially due to two related empirical functions in the data – women are less likely to complete

college, or an advanced degree compared to men, and the women in the NLSY79 sample are more likely than men to be divorced, separated, or widowed.

The most important explanatory variable in Table 3 in terms of investigating the possible transmission mechanism of media exposure/marketing when young, that reinforces gender socialization ultimately leading to the pink tax, is the hours of television watched when the respondent was a teenager. The results in columns (1) and (3) show that the amount of television watched as a teenager is negatively related to educational attainment. In particular, a teenager who reports watching 10 more hours of television each week is about 4 percentage points less likely to graduate college and about 3 percentage points less likely to earn an advanced degree compared to a teenager who watched no television as a teenager. Given that only 23 percent and 11 percent of the NLSY79 sample graduated college or earned an advanced degree respectively, the marginal effects are actually quite large. The key take-away from Table 3, therefore, is that watching television is negatively related to future education outcomes.

Finally, the OLS estimates for logged annual income are presented in Table 4. Gender, race, marijuana, education, marital status, and watching television as a teenager are all statistically significant predictors of annual income. Women are expected to earn about 55 percent less than men, which supports the well-known literature of gender differentiation in the workplace (Hines, 2013). A black person is expected to earn about 11.0 percent less than a comparable white person. Somewhat interestingly, people who have never used marijuana and people who have used it 50 or more times are expected to earn the same income, while occasional or casual users (1 to 49 times) earn about 10% more. Additionally, as expected, more education is consistently related to earning higher

income. Even though marital status doesn't play a very strong role in this model, we observe that a single person is expected to have a lower income than a married person by 23.3 percent most probably because a married couple would be more prone to combining shared income with their partners when asked this question.

Lastly, the most important variable is to consider hours spent watching television as a teenager. The total time spent watching television in the last week in hours in 1981 results are highly statistically significant at the 1 percent level. With every additional hour of television watched as a teenager, the respondent is expected to have an income 0.348 percent lower. This model reveals a strong correlation between income, education, and exposure to marketing, measured as watching television as a teenager.

IX. Policy Prescriptions

Those who support the Pink Tax, or at least those who do not see anything wrong with it, wonder, why can't women just shop differently? Given that women have the choice to change their own behavior, why should the government be called on to change law because women would rather purchase a tea tree lavender mint moisturizing shampoo instead of a 2-in-1 shampoo with conditioner?

In some sense, it is true that women could technically change their behavior. A cost-conscious woman can decide to not care about gender norms. She can decide to purchase the cheapest product despite its intended gender. She can decide that she doesn't care if her daughter wants the pink helmet over the blue helmet. She can decide that she doesn't care if she is purchasing a deodorant that smells masculine. She can decide to not care about all the products that are marketed towards women. She can also decide that she wants to wear the cheapest shirt even if the curve of the shirt, or lack thereof, is not flattering and doesn't look professional for her job.

It is not legitimate, however, to assume that **all women** can act differently in **all situations**. Even though technically they can, (1) women do have preferences and should be able to act upon them, and (2) not everyone can afford to not adhere to social and cultural stereotypical norms. It has been shown, for example, that women are harmed in the workplace in terms of being less likely to being promoted, less likely to be given opportunities, and not receiving raises if they do not use makeup or do not dress in professional clothing (Dellinger and Williams, 1997). Therefore, again, technically it is true that a woman could decide to not wear makeup or arrange her hair or wear pressed, professional clothing at work. But women should not have to bear the workplace costs,

which are real, from making these decisions. To tell a woman that she can avoid the Pink Tax by changing her consumption behavior is not a solution at all when that behavior then likely results in the woman being passed over for a promotion because her boss didn't deem her to look professional enough. This means that even if women were to be cost-conscious, society imposes restriction on what they should or shouldn't wear based on their gender.

Simply put, gender socialization plays a bigger role in the concept of women's choice than people who are quick to dismiss the Pink Tax are willing to admit (John, Stoebenau, Ritter, Edmeades, & Balvin, 2017). A woman's options are simply not nearly as broad as it might appear when consideration is given that women are expected to uphold gender norms in order to fit in society. So then, why can't we expect women to buck social norms? This is an unreasonable request, because social norms are precisely those things that are not easy to eschew. Consider a timely example of social norms for society at large. In early March of this year, doctors and politicians were warning Americans to practice social distancing yet very few Americans followed the advice from the start. Spring Breakers continued their holidays, workers continued going to their office, and business travel continued all around the world, all while spreading the virus. Even though people may have known the risks, it didn't mean that they were willing to change what society expected of them – traveling, working, going to church, going to stores, etc. It is only when the majority of people started practicing social distancing, and when the government literally stepped in and governors issued “shelter in place” orders that most people averted social norms. The impact society has on individual actions is strong. Because of the influence society has on people individually, it is undeniable that

women feel this pressure too when they are faced with the decision of purchasing. Women are continuously faced with the judgment that stems from gender socialization. Not only is it impossible to expect all women to abandon what society has taught them, especially if they are not willing to do so from within, but it would be ethically wrong to punish women for adhering to social norms because technically they have choices. Society doesn't hold avid cigarettes smokers responsible for their actions, even though the negative effects correlated to its usage are well known, factual, and researched scientifically. How could society not hold accountable those that are knowingly purchasing products that have a negative impact on their health and their environment but yet hold women economically responsible for gender norms created by gender socialization.

At this point, it is clear that women should not be the ones responsible for averting gendered social norms. However, even if women were to abandon gender stereotypical norms and purchase goods and services based solely on actual quality and price, women still could not avoid the Tampon Tax if they live in a state that has not exempted female hygiene products from state and local sales taxes. According to Period Equity, a non-profit organization (see www.periodequity.org), thirteen states have introduced bills to repeal the Tampon Tax but advanced nowhere, including Arizona, Hawaii, Indiana, Iowa, Kentucky, Missouri, Nebraska, New Mexico, Tennessee, Texas, Vermont, Washington and West Virginia. Many state legislators who have scuttled the efforts of the bill or who voted against ending the tampon tax took the position publicly that their state's budget cannot afford to go without the revenue raised by the tampon tax. For a variety of

reasons, these are very weak arguments, but let's start by actually looking at the economics of the situation.

Because state records do not explicitly track of sales tax revenue by product, commenting on the economics of the tampon tax requires some degree of estimation. There are two common ways of calculating the impact the tax on feminine hygiene products has on a state's budget. Let's take the example of Missouri:

- (1) Missouri reported a population of 6,137,428 as of July 2019. Out of those, 1,778,840 are females between the ages of 10-55 years old according to the non-profit Suburban Stats (www.suburbanstats.org), which is the average range over which women have their period. Further, California Assemblywoman Cristina Garcia when proposing a bill to repeal the tax assumed that women spend \$7 on feminine hygiene products per month for a total of \$84 per year. Overall, therefore, multiplying the number of women who are using these products by \$84 results in an estimate of women in the state of Missouri spending \$149,422,560 annually on feminine hygiene products. Lastly, the 2019 sales tax in Missouri for nonessential products (for which feminine hygiene product qualify for) was of 4.23% and the average local sales tax was 3.90% for a total of 8.13%. This means that overall, spending on feminine hygiene products contributed 8.13% of \$149,422,560, or just over \$12.1 million to Missouri's state budget. Total revenues to the state of Missouri in 2019 was \$28.3 billion.⁷ Despite legislator's unwillingness to end the tampon tax because the state cannot do without the

⁷ These numbers come from the Office of Administration Division of Budget & Planning, US Census, Suburban Stats, Statistica, and Period Equity

revenue, therefore are making this argument for essential female purchases that contribute 0.04% of the revenue stream for the state, \$4 out of every \$10,000.

- (2) A second back-of-the-envelope calculation of the economic importance of the tampon tax to the state budget is similar but relies on state estimates of total purchase rather than an estimate determined by a calculation akin to what Assemblywoman Garcia used. Specifically, continue to use the average sales tax rate of 8.13% in Missouri in 2019. According to Statista, the national market for feminine hygiene products in 2019 totaled \$3,6 billion. Period Equity then noted that the \$3.6 billion spent on feminine hygiene products accounted for 2.09% of all spending in the “other nondurable goods” (ONG) category as tracked by the federal government. The same share of ONG for Missouri would then suggest that almost \$75 million was spent on feminine hygiene products in Missouri in 2019. Using a state-wide average of 8.13% provides an estimate of $0.0813 \times \$75 \text{ million} = \2.9 million paid in tampon taxes in Missouri in 2019. Again, comparing this to total state revenues of \$22.8 billion, the tampon tax accounts for just 0.02% of the revenue stream for the state.

Even though the two strategies for estimating the amount the tampon tax attributes to state coffers results in different numbers, both methods show that the Tampon Tax is not truly impactful on the state budget. Being a minimal amount, and not to mention unfair for women, the decision to not eliminate the Tampon Tax must be viewed as being a political decision and not an economic decision. It is not that the state of Missouri cannot

afford to provide gender equality. Rather, the state legislature is simply choosing to not do so for one reason or another. A product that is necessary for women is being treated as an optional purchase.

Once these estimates are known, however, another argument could be made. If the revenue generated by the tampon tax is trivial to the state budget, then it most certainly is also trivial to women paying the tax. This argument, however, is not correct and is made only out of a position of economic privilege. In a state like Missouri, with an average sales tax of 8.13%, the average woman pays roughly \$7 in tax every year, or over \$300 in the course of their lifetime. For poor women, living in poverty, who budget every penny of their paycheck, \$7 matters. This additional tax is a burden on women only, which is unfair, unethical and discriminatory on the basis of sex. Men do not have a comparable necessary product that is taxed similarly. Gender equality requires society to abolish all taxes on necessity purchases for women's health. It is only fair that states create laws that are based on equity outside of gender. For the government, the amount amassed solely on feminine hygiene taxes is so small that it is blatantly untrue that state budgets cannot afford to go without.

From a legal standpoint, of course, the Pink Tax generally defined, and the Tampon Tax are not the same thing. The Tampon Tax literally refers to sales taxes applied to feminine hygiene products, while the Pink Tax is a general understanding of women paying higher prices for goods and services but not literally in the form of a tax. From an ethical point of view, however, they are similar. They both apply to women. They both give rise to a forced and unwanted charge of an additional sum on the purchase of a product (Yazicioglu, 2018). And they are both, for the most part, unavoidable. For

these reasons, the Pink Tax and the Tampon Tax are immoral and discriminatory against one particular gender. The Pink Tax stems from gender socialization but is proliferated by economical processes like tariffs, product differentiation, price discrimination, and price fixing (Joint Economic Committee, 2016). A society that values women and aims for gender equity would not allow either to persist.

As exposed by Lori L. Taylor and Jawad Dar, director and research student from the Mosbacher Institute for Trade, Economics, and Public Policy, US tariff policy shows several inequalities. Goods purchased from certain countries enter the US at a reduced price, or duty-free, whereas an identical good from another country is highly charged. This might be expected as economics is a way for governments to exert influence in international politics. However, Taylor and Dar (2015) show that tariff policy has also been crafted with gender in mind. For example, tariffs on some imported products, such as leather shoes and cotton shirts, depend on the intended consumer's gender. Even though these discrepancies in tariffs are valid and provide a legitimate foundation in US policy priorities, they are clearly discriminatory on the basis of sex (Taylor and Dar, 2015). Thus, differential taxation of apparel based on gender cannot be justified and should be repealed as well.

In 2014, the conversation around removing gender bias in US Import Taxes moved into the courts when Rack Room Shoes Inc and Forever 21 Inc made the case that US trade tariffs were gender discriminatory on products, especially clothing and footwear to the Court of International Trade. Unfortunately, the court ruled that the tariff rates were not intended to be discriminatory based on gender. These two companies then plead to US Supreme Court but were denied a hearing.

This court case brought to the light that the tariff rates were not based on factors such as the function of the product, its weight, size, or composition. Rather, the tariffs are designed based on the gender of the intended consumer. This means that when a woman purchases a silk shirt, there is an approximately 7.5 percent import tariff rate on her shirt, making it more expensive than a comparable silk shirt for a man that has an import tariff rate of approximately 1.5 percent. See Figure 15 presents tariffs for many products based on intended gender. Looking at all imported clothing and footwear, there is a pattern of products intended for women having a higher tariff rate. According to Figure 16, the tax on imported clothing for women is about 15.1 percent while clothing for men is only about 11.9 percent, even though the products are basically identical. It may be unfeasible (or even unwise) to require the government to completely remove tariffs on clothing and footwear because of the implicit gender discrimination, however, making sure that tariffs are not gender biased does not require the elimination of tariffs entirely. Congress has the ability to establish that companies importing clothing or footwear have the right to pay either the tariff rate for men or for women, whichever is lower. Alternatively, Congress also could ban gender-based tariff differentials on otherwise identical products by making both tariffs equal despite the gender intended. Regardless of the strategy, rectifying gender-driven irrational differentials in the harmonized tariff code will relieve customers, especially women, of the discriminatory and unfair burden of taxation.

Additionally, more companies could follow the lead of Forever 21 Inc by taking a stance in abolishing gender-based price discrimination. Through Forever 21's court case, they brought to light many injustices in the import tariff rates system. Many brands could take public positions in an attempt to bring equity to the marketplace. A few firms, such

as Billie, and Boxed, have publicly announced that they would reduce prices on a variety of women's personal care and hygiene product to equalize the prices women and men pay for those products. Burger King has taken a different approach to highlight the unethical burden of the Pink Tax on women. The fast-food chain briefly offered their Chicken Fries, that usually go for \$1.69 a box, in a "girl version" pink box with a design of a bow and eyelashes for \$3.09, almost double the price (Zetlin, 2018). The purpose of this change was to create an ad showing the reaction of people, especially women, to the price change. At the end of the ad, the Burger King workers pointed out the Pink Tax in different products outside of the food industry and invited viewers to support the Pink Tax Repeal Act (H.R. 5686). By bringing awareness to a discussion that was currently going on in the government was a huge step for Burger King in highlighting the Pink Tax.

Prior to the introduction of the Pink Tax Repeal Act in the House of Representatives, the deferral and several state governments had already tried tackling issues related to the Pink Tax in many different ways. In 1995, California passed a law, called the Gender Tax Repeal Act, prohibiting gender-based price discrimination for services such as dry cleaning and haircuts. The law was meant to reduce or eliminate the gender-based price discrimination happening in those industries, without prohibiting companies from charging different prices for their services based on time spent on the task or difficulty of the task (just not based on the gender of the client). This law inspired other cities, such as New York City, and states, such as Massachusetts, to pass similar legislation in 1998. The Massachusetts Public Accommodations Act prohibits specifically gender-based price discrimination for services related to cosmetology for example. In

2018, Jackie Speier, Representative for California's 14th congressional district, led the introduction of the Pink Tax Repeal Act (H. R. 5464) in the United States Congress. The bill was modeled after the California law that prohibited gender-based price discrimination in services such as dry cleaning and haircuts. The Pink Tax Repeal Act would have made it illegal at the national level to charge women and men a different price for identical products and services (Joint Economic Committee, 2016). The bill defined identical products and services as a product that does not differ in material use, intended use, functional design and features (therefore not including differences such as color of the product), and services that do not differ in the amount of time needed, the difficulty of the task and the cost of supply (H. R. 5464, 2018). The bill unfortunately did not pass, and Congress shut it down.

Additionally, to support the enactment of these two bills and in order to fully abolish the Pink Tax, it should be tackled from its root: gender socialization. Educating future generations through school programs about the process of gender socialization and its effects on society, would help this psychological process to slow down, would destroy gender norms imposed by society, and would teach people to not endure the pressure that society instills. Through education comes awareness. Through awareness comes the rise of public opposition. Through the rise of public opposition comes change.

Through this research, it has been argued that the Pink Tax should be abolished from a socioeconomic point of view since this unethical practice creates a burden based on gender-based price discrimination (Yazicioglu, 2018). Lack of action by government officials should be treated as tacit support for and approval of perpetuating this discrimination. The Pink Tax could, and should, be abolished by all governments –

federal, state, and local. Governments can enact laws and regulations, such as the Menstrual Equity for All Act and the Pink Tax Repeal Act to eliminate gender-based price discrimination. Such steps would go a long way toward removing the pink tax.

X. Conclusion

Several examples of the Pink Tax (e.g. Gap sweatshirts, Secret vs Degree deodorant) were presented in this thesis in order to demonstrate that there is gender-based unfairness with regards to some products in the marketplace. The Pink Tax exists for many reasons, but largely due to gender socialization. Gender socialization is exacerbated by marketing strategies designed to exploit stereotypes. The empirical work, using the National Longitudinal Survey of Youth 1979, was then carried out to further demonstrate the potentially large influence media and advertising can have on gender stereotypes and behavior by showing a significant relationship between marketing exposure (measured by watching television as a teenager) and eventual educational outcomes and incomes, and that these effects are important for women. The empirical work found a clear negative relationship between the education and exposure to marketing. In order to close the gender discrepancies gap, awareness is the first step. Consumers need to make educated purchasing decisions to combat this tax. For further research, as seen in *Filling the Box: Television in Higher Education* by Derek Kompare (2011), television can play a bigger role in higher education and positively affect graduation rates, if used correctly. It would be interesting to bring awareness to the Pink Tax and educate consumers through television as a mean to the end, similar to Burger King's campaign. The second step is for government to take action and combat the Pink Tax through legislation, preferably at the

federal level, but barring that, also at the state and local level. Many bills have been introduced but found little traction in Congress, but the process of introducing these bills, will, over time, be used as a steppingstone for other legislators to create laws that will eventually bring gender equity into the marketplace.

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Appendix: Visual Examples of the Pink Tax

Figure 1: Multi- Level Framework of Influences Impacting Gender Socialization Processes During Adolescence (UNICEF, 2017)

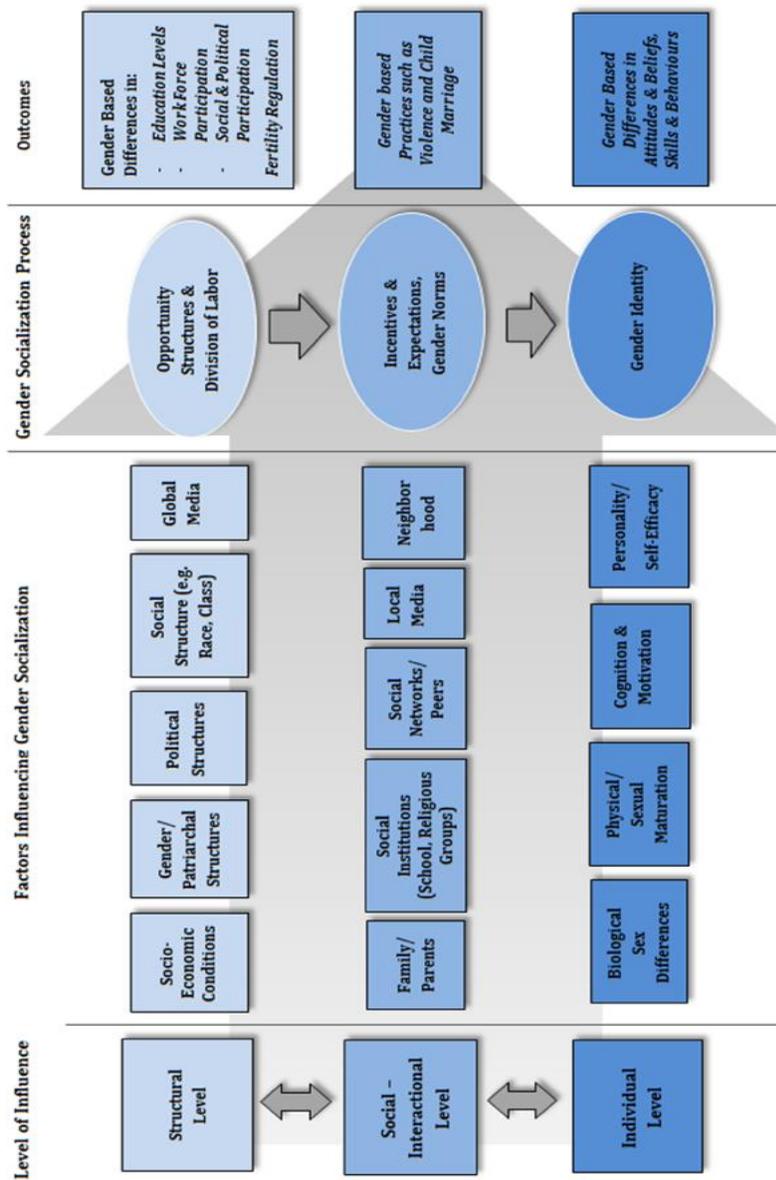
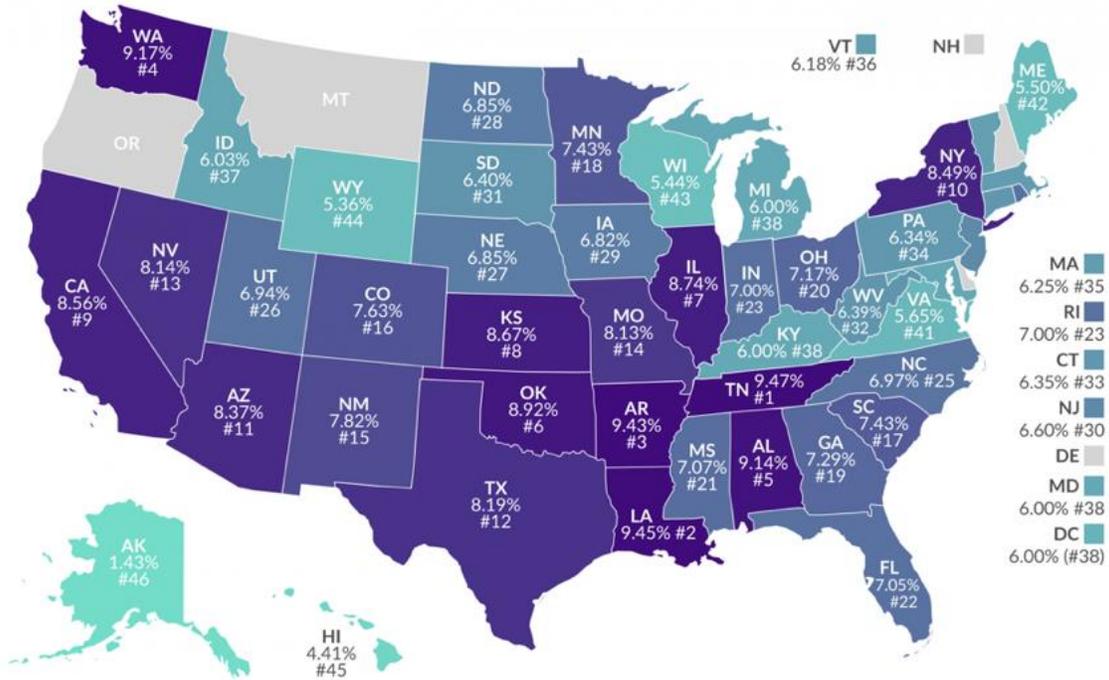


Figure 2: Sales Taxes in States (Tax Foundation, 2019)

How High Are Sales Taxes in Your State?

Combined State & Average Local Sales Tax Rates, January 1 2019



Note: City, county, and municipal rates vary. These rates are weighted by population to compute an average local tax rate. Three states levy mandatory, statewide, local add-on sales taxes at the state level: California (1.25%), Utah (1.25%), and Virginia (1%); we include these in their state sales tax. The sales taxes in Hawaii, New Mexico, and South Dakota have broad bases that include many services. Special taxes in local resort areas are not counted here. Salem County, N.J. is not subject to the statewide sales tax rate and collects a local rate of 3.3125%. New Jersey's local score is represented as a negative. D.C.'s rank does not affect states' ranks, but the figures in parentheses indicate where it would rank if included.

Source: Sales Tax Clearinghouse, Tax Foundation calculations, State Revenue Department websites



Figure 3: Are Tampons Taxed in Your State? (Wikipedia, 2019)

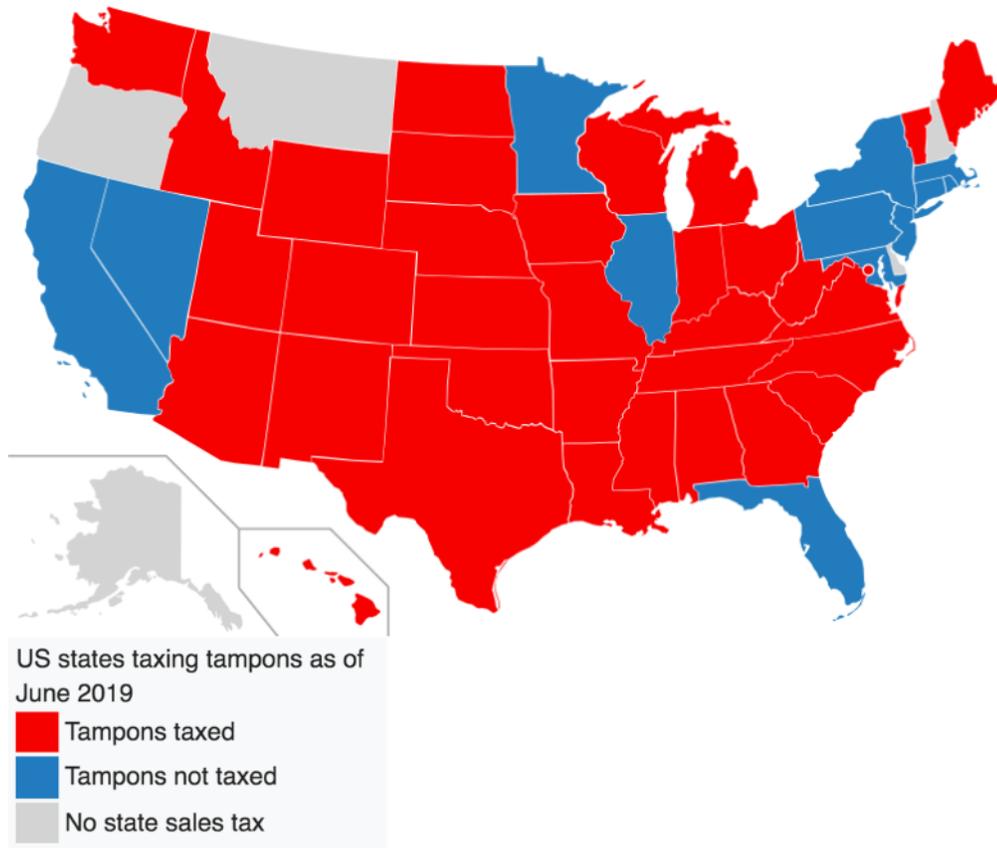


Figure 4: Tampon Tax State Update (Zraick, 2019)

Rhode Island	Repealed the Tampon Tax in its budget bill BUT introduced a legislation that later on passed
California	Gov. Gavin Newsom enacted an exemption to feminine hygiene products which will last only 2 years instead of a permanent law
Maine	Even though a bill was passed to repeal the Tampon Tax, there wasn't enough money to cover the cost of it, so it was shut down temporarily. Discussion will continue in the future
Georgia	The Tampon Tax was not repealed but the government allocated funds to provide free menstrual products in schools and community centers in low-income areas
Virginia	Instead of repealing the Tampon Tax, lawmakers reduced the tax on menstrual products and diapers to 2.5 percent instead of the usual 5-7 percent
Michigan	Anti-Tampon Taxes are just not getting any attention nor approval
Louisiana	Senator J.P. Morrell, a Democrat, sponsored a bill to eliminate taxes on diapers and menstrual products. In negotiations, lawmakers sought to combine the measure with tax breaks on firearms and other items, he said. Opponents voiced concern about the cost, and prevailed.
The other states where bills were introduced but did not advance were Arizona, Hawaii, Indiana, Iowa, Kentucky, Missouri, Nebraska, New Mexico, Ohio, Tennessee, Texas, Utah, Vermont, Washington and West Virginia, according to a database compiled by Period Equity.	

Figure 5: DCA Jean's Example

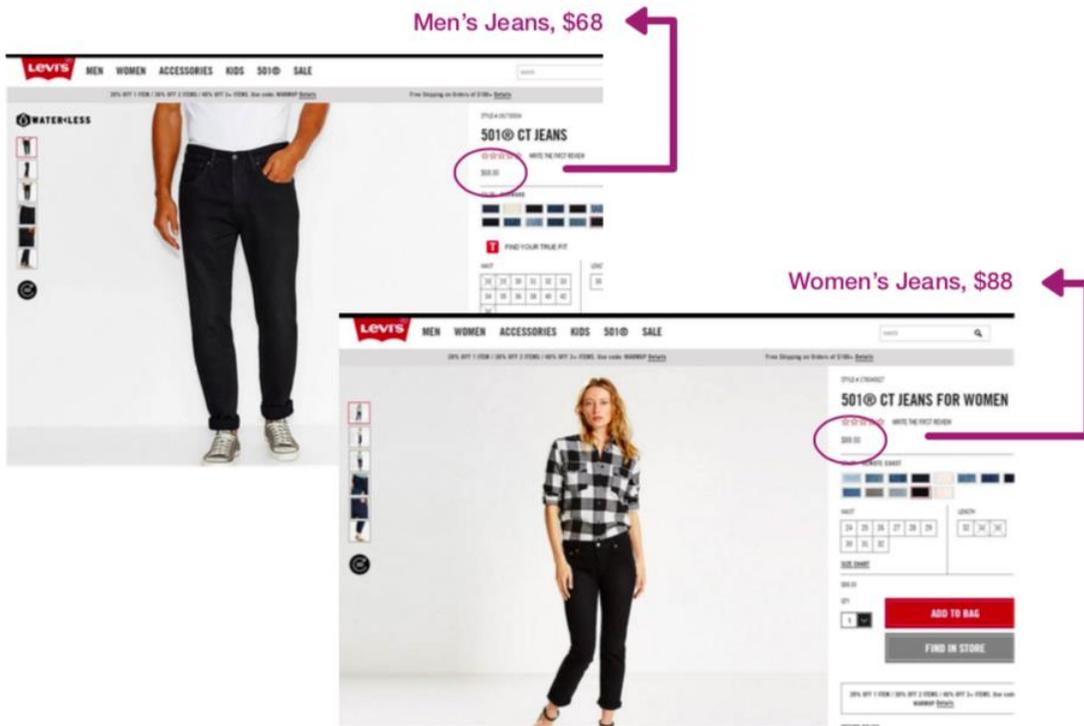


Figure 6: DCA Children's Polo Example

Short-Sleeved Uniform
Item #: 2043171_1927 [Write a Review](#)
\$5.47 Regularly: \$10.95
Select a Color: CLASSICRED
Select a Size: **Error: We're sorry, 1**
XS (4) S (5/6) M (7/8) L
[Size Chart](#)
Quantity: 1 **ADD TO BUY**
A class-act top, perfect with chinos
• Made of 100% cotton pique

Uniform Short Sleeve
Item #: 2043376_6B
★★★★★ 5.0 (2) [Write a Review](#)
\$7.77 Regularly: \$12.95
Select a Color: RUBY
■ ■ ■ ■ ■
Select a Size:
XS (4) S (5/6) M (7/8)
XL (14)

Figure 7: BabyGap Sweatshirt Example (GAP, 2019)



babyGap | Disney Mickey Mouse Gap
Logo Hoodie Sweatshirt
\$34.95



babyGap | Disney Minnie Mouse Gap
Logo Hoodie Sweatshirt
\$39.95

Figure 8: DCA Helmet Example (DCA, 2015)

<p>Raskullz Shark Attax Ride Alongz Toddler Helmet</p>	<p>\$14.99 spend \$75 save \$10 using Orde</p>	<p>Raskullz Unicorn Ride Alongz Toddler Helmet</p>	<p>\$27.99 spend \$75 save \$10 using Orde</p>
	<p>☆☆☆☆☆ write a review</p> <p>quantity: - 1 +</p> <p>add to cart</p> <p>shipping spend \$25, get free sh only 4 left get it by 10/19 with express shipping</p> <p>store pickup free get it in 4-7 business days at Jersey t find in another store</p>		<p>☆☆☆☆☆ write a review</p> <p>quantity: - 1 +</p> <p>add to cart</p> <p>shipping ships free</p> <p>store pickup free get it in 4-7 business days at Jersey t find in another store</p>

Figure 9: Amazon Helmet Example (Amazon, 2020)

			
<p>Raskullz Mohawk Toddler 3+ and Child 5+ Helmets ★★★★★ ~ 1,692 \$19⁹⁹ ✓prime</p>	<p>Raskullz Child Unicorn 5+ Helmets ★★★★★ ~ 1,048 \$23⁰⁵ \$24.99 ✓prime</p>	<p>Raskullz Dinosaur Toddler 3+ and Child 5+ Helmets ★★★★★ ~ 594 \$19⁹⁹ ✓prime</p>	<p>Raskullz Kitty Cat Toddler 3+ and Child 5+ Helmets ★★★★★ ~ 482 \$24⁹⁹ ✓prime</p>

Figure 10: An advertisement from a 1925 Sears catalog (Sears, 1925)

Remember the Little Girl

Girls can learn to sew on these Machines

These machines really sew

Spool of thread, needles and full directions included

New Chain Stitch

Every Little Girl Loves to Sew

These machines would make her happy. Made by the best toy sewing machine manufacturers, the choice made before leaving factory by actually sewing on cloth. Heavy, finely decorated black base, brass, nickel plated brass iron stands, hand wheels, nickel plated sewing plate. **98c**

Our Finest for \$5.98

Really a handy machine about the house or when you are on a vacation or trip. Very popular with travelers. More perfect tension, larger arm space than the smaller machine. Size 11 1/2 x 13 1/2 inches. Shipping weight, 4 1/2 pounds. **7908910 \$5.98**

Mother's Here is a real practical toy for little girls. Every little girl likes to play house & to sweep, and do mother's work for her.

(1) A real mop with 27 in. round wood handle. (2) 11-inch cotton yarn duster. (3) A good grade 12 in. broom with varnished wood handle. (4) Toy sweeper with revolving brush, round wood handle 22 in. long. All Toys packed in box, ship. wt. 4 lbs. **7909162 98c**

The best value we have ever offered in this price. For the smaller and cheaper size, perfect in operation, automatic tension. Size 7 1/2 x 10 1/2 inches high. Shipping weight, 6 pounds. **4906811 \$3.47**

Figure 11: An advertisement from a 1925 Sears catalog (Sears, 1925)

The New Erector The World's Greatest Construction Toy

The New Erector is a Tremendous Success

Builds the Most Models—Has the Most Parts

The Only Construction Toy With the Square Girder

This new Erector last year proved to be the biggest success ever offered in construction toys. Many new parts were added, thus increasing the flexibility, and making possible the building of much more interesting and complicated models. Every boy likes to tinker around and try to build things. With an Erector set he can satisfy this inclination and gain mental development without apparent effort. He can use his own ingenuity and build according to his own ideas if he wishes. He will learn the fundamentals of engineering. Complete instruction books included.

All models built with Erector are true models, for the pulley gears, angle irons, etc., are duplicates of the actual parts used in construction work. You can build bridges, skyscrapers and thousands of other interesting models.

\$10.00 Erector \$8.98	\$5.00 Erector \$4.47	\$3.00 Erector \$2.85	\$1.00 Erector 89c
-------------------------------	------------------------------	------------------------------	---------------------------

Imagine the thrill of having a set with which you can build nearly 500 models. Includes many new parts and in other sets. Possible to build such models as a motor, engine, steam shovel, crane, derrick, and ferris wheel. A wonderful collection of gears, pulleys, rods, digger scoop, etc. A powerful, already assembled motor to make your models work when completed. Also included is a strong stained wood cabinet. **7904716 \$8.98**

This most popular size set will keep you busy indefinitely. Think of being able to build over 200 actual, miniature models. Build bridges, airplanes, anything, your heart desires with this wonderful set. Then attach your model to the already assembled motor and watch it work. It is strong, durable, the old-fashioned, better. Shipping weight, 1 1/2 pounds. **7906720 \$4.47**

No matter how small a building set you can find, you can't find one so big with an Erector set. The square girder-like structure, steel plates, etc., enables you to build about 350 different models. This is a handy set, a handy set, a handy set. It is a complete construction set, with a larger set than any other set. In action, it is an attractive book. Shipping weight, 1 1/2 pounds. **4904716 \$2.69**

A crackling set to play out with you can build over 200 models with this set. Although it is a best match than the other sets, many a day a model, with it, is a larger set than any other set. In action, it is an attractive book. Shipping weight, 1 1/2 pounds. **4904717 89c**

Figure 12: An advertisement from a 1970 Sears catalog (Sears, 1970)



**14-piece
Carpenter's Set with
wood tool chest
\$12.77**

This handsome 14½x
9½x3-in. deep wood
chest securely holds all
tools in their respective
places. Tools include
saw, pliers, 2 screwdriv-
ers, 2 wood chisels,
hammer, block plane,
awl, mallet, level, fold-
ing ruler, tri-square and
wood clamp. Ages 8 and
up. Wood shown is not
incl. Shipping wt. 6 lbs.
49 C 19056 ... Set \$12.77

528 **Sears** 

APPLIANCES



**Refrigerator-Freezer with
'ice maker' and 5 shelf areas
\$18.99**

4 Double-Air...
15-Cook
Pie
Cakes...
\$4.99

Figure 13: Disney Website Front (Disney, 2020)

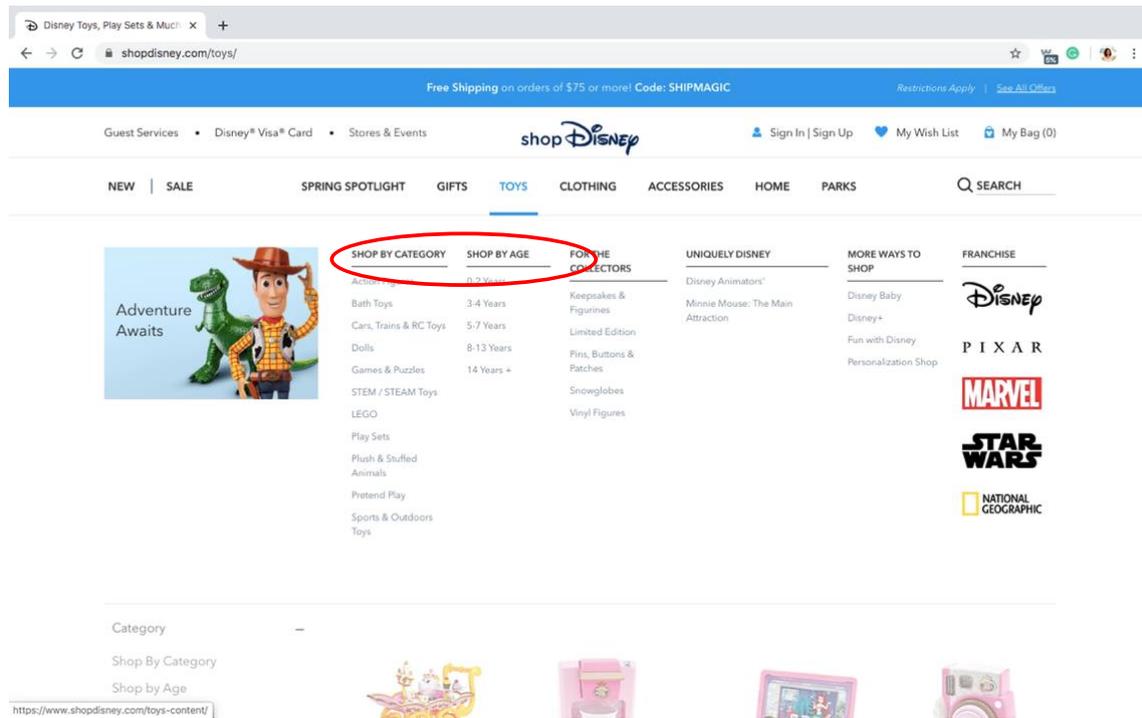


Figure 14: Gillette Razors (Target, 2020)

Target / Personal Care

Venus Extra Smooth Women's Razor Blade Refills

[Shop all Venus](#)



\$17.99

new at be the first!

from \$14.62 inc. tax + shipping

Quantity
1

Size 4
4 6

Target / Personal Care

Gillette Fusion5 Men's Razor Blade Refills

[Shop all Gillette](#)



\$14.99

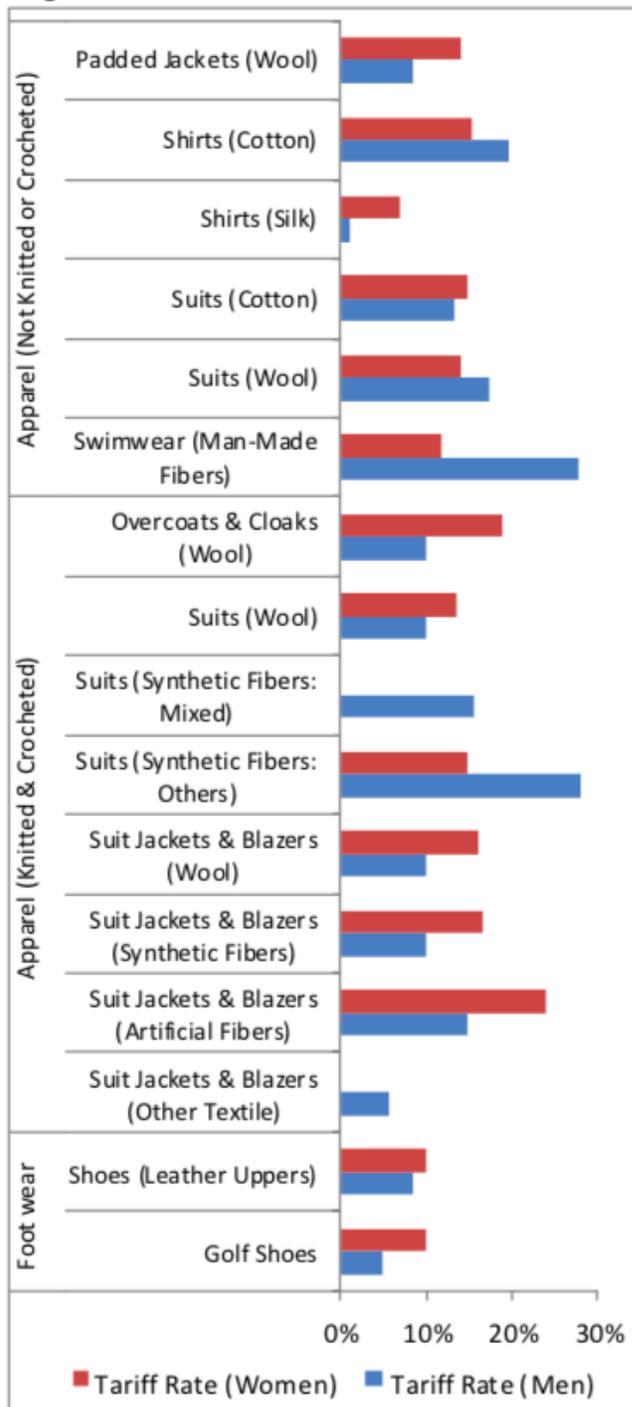
2158

from \$22.08 inc. tax + shipping

Quantity
1

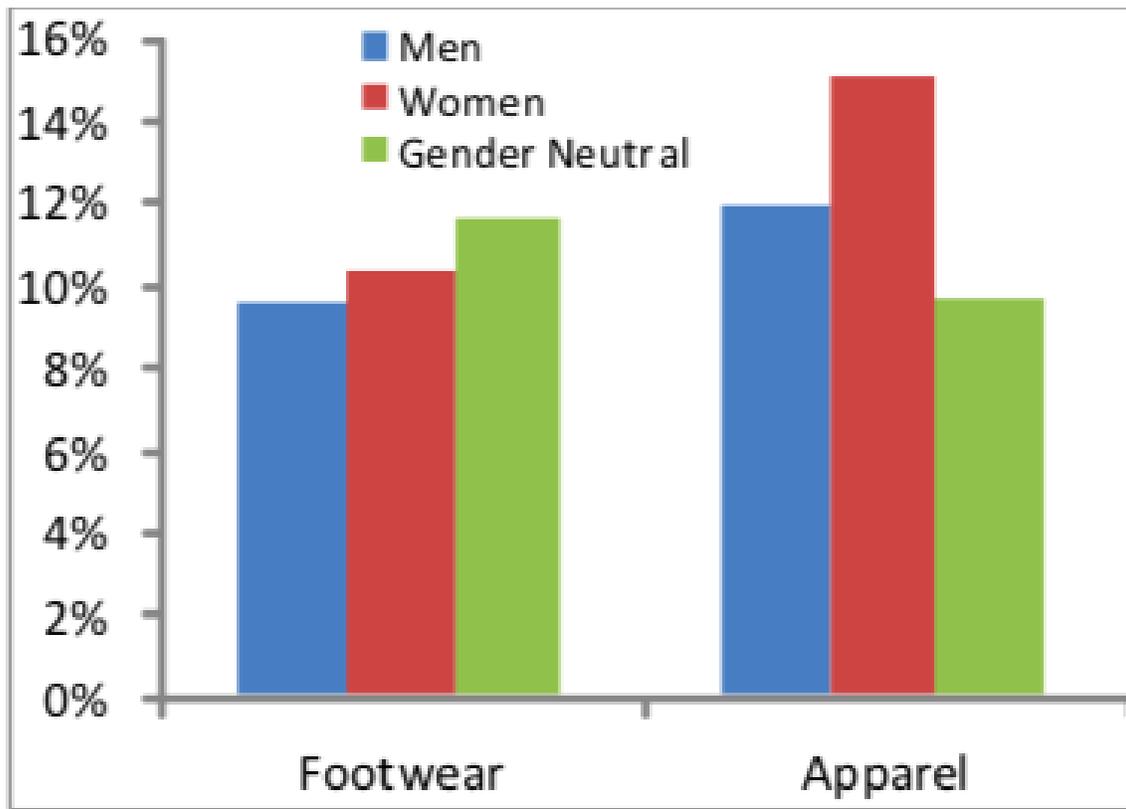
Size 4
12 4 8

Figure 15: Gender-Based Tariff Differentials (LL Taylor, 2015)



Source: US Harmonized Tariff Schedule

Figure 16: Average US Tariff Rates (LL Taylor, 2015)



Source: US International Trade Commission and authors' calculations

Table 1: NLSY79 Descriptive Statistics

Variables	Mean	SD	Min	Max
1981 Variables				
Total Hours Spent Watching TV Last Week	13.99	13.85	0	96
No TV watched Last Week	0.071	0.257	0	1
1 to 7 Hours Spent Watching TV Last Week	0.352	0.478	0	1
8 to 21 Hours Spent Watching TV Last Week	0.380	0.486	0	1
22 to 34 Hours Spent Watching TV Last Week	0.101	0.301	0	1
More than 35 Hours Spent Watching TV Last Week	0.096	0.294	0	1
Male	0.487	0.500	0	1
Female	0.513	0.500	0	1
Black	0.293	0.455	0	1
Hispanic	0.198	0.399	0	1
White	0.509	0.500	0	1
Age	17.24	0.744	16	18
2006 Variables				
Married	0.582	0.493	0	1
Single	0.178	0.383	0	1
Divorced or Separated	0.232	0.422	0	1
Widowed	0.008	0.091	0	1
Never smoked marijuana	0.364	0.481	0	1
Smoked marijuana at most 10 times in life	0.300	0.458	0	1
Smoked marijuana 11- 49 times in life	0.106	0.308	0	1
Smoked marijuana more than 50 times in life	0.230	0.421	0	1
Has not completed high school by 2006	0.091	0.288	0	1
Highest degree completed by 2006 was a high school degree	0.440	0.497	0	1
Has some college by 2006	0.243	0.429	0	1
Highest degree completed by 2006 was a college degree	0.114	0.317	0	1
Highest degree completed by 2006 was an advanced degree	0.112	0.315	0	1
Employed	0.787	0.409	0	1
Unemployed	0.051	0.220	0	1
Not in Labor Force	0.162	0.368	0	1
Total Income from Wages and Salary in 2005*	47,658	45,443	628	279,816

* Number of observations is 2,175 except for 2005 income which comes from 1,712 responses.

Table 2: OLS Regression Results for Hours of TV Watched Last Week

Variable	Coefficient
Age in 1981	-1.141*** (0.390)
Female	2.170*** (0.589)
Black	1.828** (0.714)
Hispanic	-0.116 (0.759)
Constant	32.04*** (6.747)
Observations	2,175
R-squared	0.014

Standard errors are reported in parentheses.

*** Statistically significant at the 1% level, ** at the 5% level, *at the 10% level

Table 3: OLS Regression Result for Educational Attainment

Dependent Variable:	More Than College Degree		Advanced Degree	
	(1)	(2)	(3)	(4)
Female	0.019 (0.018)	0.017 (0.018)	0.015 (0.014)	0.014 (0.014)
Black	-0.135***	-	-0.066***	-0.069***
Hispanic	-0.166***	0.140*** (0.021)	-0.072*** (0.016)	-0.073*** (0.016)
Age in 2006	-0.455 (1.529)	-0.433 (1.532)	1.080 (1.171)	1.080 (1.173)
Age in 2006 Squared	0.005 (0.018)	0.005 (0.018)	-0.013 (0.014)	-0.013 (0.014)
Smoked pot at most 10 times in life	-0.008 (0.022)	-0.008 (0.022)	-0.020 (0.017)	-0.021 (0.017)
Smoked pot 11- 49 times in life	-0.014 (0.032)	-0.014 (0.032)	-0.013 (0.025)	-0.014 (0.025)
Smoked pot more than 50 times in life	-0.075***	-	-0.041**	-0.043**
Single	-0.069***	0.078*** (0.023)	-0.047** (0.018)	-0.047** (0.018)
Divorced or Separated	-0.146***	-	-0.083***	-0.083***
Widowed	-0.118 (0.075)	-0.122* (0.073)	-0.124*** (0.019)	-0.127*** (0.019)
1 to 7 Hours Spent Watching TV Last Week		-0.012 (0.038)		-0.025 (0.032)
8 to 21 Hours Spent Watching TV Last Week		-0.074** (0.038)		-0.067** (0.031)
22 to 34 Hours Spent Watching TV Last Week		-		-0.126***
More than 35 Hours Spent Watching TV Last Week		0.160*** (0.042)		-0.144*** (0.033)
		-		
		0.162*** (0.041)		

Total Time Spent Watching TV in Last Week in Hours in 1981	-0.004*** (0.001)		-0.003*** (0.001)	
Constant	9.947 (32.17)	9.498 (32.23)	-22.69 (24.61)	-22.65 (24.66)
Observations	2,175	2,175	2,175	2,175
R-squared	0.086	0.087	0.051	0.053

Robust standard errors to control for heteroskedasticity are reported in parentheses.

*** Statistically significant at the 1% level, ** at the 5% level, *at the 10% level

Table 4: OLS Regression Result for Earned Income

Dependent Variable:	(1)	(2)
Female	-0.548*** (0.037)	-0.550*** (0.037)
Black	-0.107** (0.044)	-0.110** (0.044)
Hispanic	0.006 (0.049)	0.005 (0.049)
Age in 2006	-1.028 (3.195)	-0.629 (3.203)
Age in 2006 Squared	0.012 (0.038)	0.007 (0.038)
Smoked pot at most 10 times in life	0.090** (0.044)	0.091** (0.044)
Smoked pot 11- 49 times in life	0.110* (0.062)	0.114* (0.062)
Smoked pot more than 50 times in life	0.033 (0.050)	0.036 (0.050)
Did not complete high school by 2006	-0.313*** (0.078)	-0.309*** (0.078)
Has some college by 2006	0.320*** (0.045)	0.316*** (0.045)
Highest degree completed by 2006 was a college degree	0.660*** (0.058)	0.662*** (0.058)
Highest degree completed by 2006 was an advanced degree	0.833*** (0.058)	0.835*** (0.059)
Single	-0.233*** (0.052)	-0.233*** (0.052)
Divorced or Separated	-0.025 (0.046)	-0.025 (0.046)
Widowed	-0.434** (0.216)	-0.440** (0.216)
1 to 7 Hours Spent Watching TV Last Week		-0.034 (0.075)
8 to 21 Hours Spent Watching TV Last Week		-0.004 (0.075)
22 to 34 Hours Spent Watching TV Last Week		-0.140 (0.090)
More than 35 Hours Spent Watching TV Last Week		-0.138 (0.092)

Total Time Spent Watching TV in Last Week in Hours in 1981	-0.004*** (0.001)	
Constant	32.18 (67.21)	23.75 (67.39)
Observations	1,712	1,712
R-squared	0.280	0.280

Standard errors are reported in parentheses.

*** Statistically significant at the 1% level, ** at the 5% level, *at the 10% level