Journal of Economic Behavior & Organization 134 (2017) 336–355

Contents lists available at ScienceDirect

Journal of Economic Behavior & Organization

journal homepage: www.elsevier.com/locate/jebo

Economics of vanity sizing

Wan-Ju Iris Franz

Cameron School of Business, University of St. Thomas, United States

ARTICLE INFO

Article history:
Received 4 August 2016
Received in revised form 5 January 2017
Accepted 9 January 2017
Available online 16 January 2017

JEL classification:
M3
D1
D2

Keywords:
Vanity sizing
Size inflation
Reference-dependent preferences
Framing
Consumer behavior

ABSTRACT

This paper examines the size charts of 54 American apparel retailers. Evidence reveals that sizes are inflated for women's apparel brands with moderately higher prices. Very expensive designer brands measure significantly smaller than lower priced brands for women's apparel. Brands that target young adult female consumers measure significantly smaller than their counterparts that target relatively older consumers.

Evidence indicates little, if any, vanity sizing in men's or children's apparel.

1. Introduction

Size inflation is a phenomenon where "clothes with the same size label have become steadily larger over time" (The Economist). Size inflation has been well-documented in the United States. For example, size 14 at Sear's 1937 catalogue is equivalent to a size 8 in 1967, which is a size 0 in 2011 (Clifford, 2011). Label sizes not only expand but also vary: Kinley (2003) examined 1011 pairs of women's pants and noticed that measurements are different within the same size categories. For instance, label size 4 has different measurements across various brands at different price levels. Moreover, Kinley observed that expensive pants seem to measure larger than their less expensive counterparts.

Why do apparel label sizes expand and vary across different brands? Does label size variation also occur in apparel of men and children? There exist two possible answers to the first question: relatively larger Americans, and vanity sizing. In other words, some Americans are overweight, but they do not want their clothing labels to remind them that they are large, or have become larger.

Americans' weight has increased significantly. Between early 1960s and 2002, the average weight of adults increased more than 24 pounds, with their body mass index (BMI) raised from 25 to almost 28.[1] During the same period of time, children's weight and BMI rose as well. Young children (6–11 years), teenage boys, and teenage girls gained 9, 15, and 12 pounds, respectively. At the same time, children's growth of height was relatively modest: 0.7 inches for teenage boys, and 0.3 inch for teenage girls. As a result, the overall BMI has gone up for most Americans (Ogden et al., 2004, 2006).

E-mail address: irisfranz@gmail.com

[1] Body mass index is equal to the weight in kilograms divided by squared height, measured in meter. *Source*: Centers for Disease Control and Prevention, https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/.

http://dx.doi.org/10.1016/j.jebo.2017.01.004
0167-2681/

Table 1
Prevalence of overweight by household income.

Annual household income	Men weight classification			Women weight classification		
	Normal weight[a]	Overweight	Obese	Normal weight[a]	Overweight	Obese
Less than $10k	41.19%	32.28%	26.53%	38.30%	26.09%	35.61%
$10k–15k	36.03	36.31	27.66	38.49	25.24	36.27
$15k–20k	36.54	35.81	27.65	37.33	27.11	35.56
$20–25k	35.37	37.11	27.52	38.21	28.89	32.90
$25k–35k	32.51	39.97	27.52	40.63	29.53	29.84
$35k–50k	30.06	42.44	27.50	42.76	30	27.24
$50k–75k	25.25	46.76	27.99	46.8	29.11	24.09
Greater than $75k	26.16	24.62	49.22	57.96	26.5	15.54

Source: Derived from Schmeiser's (2009) calculation using data from the Behavioral Risk Factor Surveillance System 2005. The prevalence of obesity is included for completeness, although obese consumers typically do not fit in regular sizes and thus, relatively less relevant to this study.

[a] Adults who are not overweight or obese. The prevalence of underweight adults aged 20–74 years is 2.3% for women, and 0.9% for men in year 2008. *Source*: Center of Disease Control, https://www.cdc.gov.

When Americans prefer not to acknowledge their weight gain – in particular, if Americans do not wish their clothing label to remind them of their growing size – vanity sizing comes into play.

Vanity sizing is a common practice in the fashion industry. Apparel manufacturers deliberately label clothes smaller than their actual size. With vanity sizing, a Large-sized woman can now fit into a dress labeled as Medium. Because vanity sizing causes consumers to have a positive and relatively thinner imagery of themselves, consumers prefer the clothes that are labeled smaller than their actual sizes to the clothes that are labeled according to their true sizes (Aydinoglu et al., 2012).

Suppose a consumer is presented two identical T-shirts with the same size, color, and shape. However, one is labeled as size Medium (M) while the other is labeled as size Large (L). A rational consumer would be indifferent between the two T-shirts. However, many consumers would prefer the shirt labeled as Medium, because it makes the consumer feel better about her own figure (evidence in Appendix A). In other words, consumers' decisions are influenced by framing; that is, the way that the good is presented to the consumers (Tversky et al., 1981).

Let the consumer's label size last period be her "reference size." (For example, if a consumer was wearing size Medium two years ago when she last purchased a garment, then her reference size is "Medium.") In this period, when buying a new garment made by the same manufacturer, the consumer will be able to fit in her reference size if the consumer's physical size and the manufacturer's label size grow at the same pace. Specifically, the consumer can fit in her reference size in the following two scenarios: 1. The consumer has gained weight, and the manufacturer has also inflated the label size; 2. the consumer has not gained weight, and the manufacturer has not inflated the label size either.

However, if the consumer's physical size and the manufacturer's label size do not grow at the same pace, then the consumer will not fit in her reference size. In particular, if the consumer has not gained weight, but the manufacturer has inflated the label size, then the consumer will "shrink" into a smaller size (for example, size Small).

On the contrary, if the consumer has gained weight, but the manufacturer has not inflated the label size, then the consumer will grow into a bigger size (for example, size Large). According to the value function of prospect theory (Kahneman and Tversky, 1979; Tversky et al., 1991), the loss of growing into a larger label size is greater than the gain of "shrinking" into a smaller label size (Fig. 2). Apparel manufacturers can prevent consumers from such a loss by inflating label sizes.

While the benefit of label size inflation is allowing consumers to remain at their reference size, or even to "shrink" into a smaller size, the cost is the vast number of returns due to size inconsistency among different apparel manufacturers. To satisfy consumers' desire to feel thinner, manufacturers compete and size up against one another. Consequently, label sizes vary across different brands. This was not a big issue when most consumers visited brick and mortar stores to try on the garments before their purchases. However, with more retailers going on-line, different rate of size inflation and size variation among apparel manufacturers make it challenging for consumers to purchase a garment that fits. Consumers who purchase ill-fitted garments end up with returns, dampening the profit of the apparel manufacturers (Dockterman, 2016).

Do apparel manufacturers inflate the sizes due to vanity sizing, or do they inflate the size just to conform to larger-sized Americans, without purposefully trying to make consumers feel better about their figures? Research reveals that the prevalence of normal weight individuals varies across different income levels (Table (1)). If apparel companies design clothes according to their target consumers' characteristics – including their physical sizes, which are associated with their income levels – and if vanity sizing is the main reason for size inflation and variation, then one might observe some kind of association between apparel measurement and its target consumers' annual income.

Nevertheless, if vanity sizing is the main cause of size inflation and variation, then one would probably observe no association between the measurement in children's apparel and their parents' or guardians' annual household income. Young children typically do not shop for their own clothes. Rather, parents or guardians purchase the clothes for their children. Children are growing and need larger sizes of clothes each year. Therefore, parents and guardians would not mind (and will regard it normal) buying bigger clothes for children each year. Furthermore, young children are probably not aware of the sizes of clothes they wear, let alone being self-conscious about it. Hence, apparel manufacturers would have little, if any, incentive to practice vanity sizing in children's apparel.