Positional Concerns, Advertising Expenses and their Externalities

"What is, is wrong"

January, 2025

Abstract

Since Veblen's "The Theory of the Leisure Class" was published in 1899, a considerable amount of literature on conspicuous consumption has been produced. Although much has been said from a demand viewpoint, its supply side and social consequences rest largely undetermined. This research, by introducing price signals in an individual's utility function and by formalizing an advertising augmented Lerner index, underlines the strongly conflicting interests between the generality of consumers and firms in a market characterized by positional concerns and advertising expenses. Eventually, it suggests a steeply progressive advertising tax as a feasible remedy.

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1 Introduction

According to Edited, a data company providing market analytics in the retail industry, since 2019 prices and sell-outs of luxury goods have grown respectively by the 25% and 21% (Stanley 2022). A traditional approach to consumer's utility and demand, deliberately ignoring interdependent behaviors, such as a quest for status, would certainly label a similar consumption as paradoxical. On the contrary, social sciences other than economics, which have always recognized the leading role of positional concerns in human motivation, the existence of interdependent behaviors and the effects of interpersonal comparisons (Maslow 1943; Frank 1985a), would easily rationalize such a pattern. Therefore, a proper formalization of interdependent behaviors would finally complete the neoclassical configuration of, not only the individual's utility and demand functions, but also the firm's profit and markup curves, rationalizing phenomenons otherwise defined as paradoxical, to eventually reflect the complexity of the real world.

This article develops as follows. In section two, I examine the past literature and the state of the art, highlighting the causes that led to an independent textbook utility function. In section three, by introducing price signals in an individual's utility function, I formalize ostentatious consumption behaviors from a consumer standpoint. In section four, I inspect the adverse economic and social-psychological externalities entailed in an ostentatious conduct.

In section five, I turn to the behavior of profit maximizing firms. Namely, through an advertising augmented Lerner index I show that, when certain conditions are met, advertising expenses permits to levy a positive and growing markup while enhancing conspicuous expenditures and its negative effects over the generality of consumers. In section six, I conduct a second-degree polynomial regression over a panel of public owned luxury goods suppliers in order to empirically investigate the relationship between their advertising expenses and markups. In section seven, I analyze five possible public policy's approaches to diminish the distortionary effects on consumption. Briefly from a demand viewpoint – namely, a prohibition approach, a behavioral approach and a fiscal approach. Then, more in depth, from a supply viewpoint – namely, a steeply progressive advertising tax and the development of a deeper sensibility over CSR in academia. In conclusion, I remark the necessity to rethink microeconomics utility and profit functions and the need to re-microfound macroeconomics on these bases.

2 The consumer's positional concerns

2.1 Past literature

Thorstein Veblen, in his 1899's "The Theory of the Leisure Class", is the first post-marginalism economist to elect interdependent behaviors the core of his analysis. In his work Veblen defines *conspicuous consumption* as an act of displaying ostentatious visible goods as a symbol of the purchaser's spending capacity – which is, in turn, a signal of his wealth and ability (Veblen and Lekachman 1994). However, his research is not entirely original.

Already Plato in "The Republic" famously affirms "Since ... appearance tyrannizes over the truth and is lord of happiness, to appearance I must devote myself".

Adam Smith too, in the "Wealth of Nations", states that community standards decree which commodities are necessities: "By necessaries I understand not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without" (Smith 1937 as cited in Frank 2008).

Further Bernard de Mandeville affirms that invidious comparison, which is a habit of mind common to all people, generates economic growth for the rule that private vices turn in public virtues (Mandeville 1966), while, alternatively, John Stuart Mill, as the Physiocrats highlighting the existence of ostentatious behavior, suggests to curtail the waste of resources caused by conspicuous consumption through taxation: "A great portion of the expense of the higher and middle classes in most countries is not incurred for the sake of the pleasure afforded by the things on which the money is spent, but from regard to opinion, and an idea that certain expenses are expected from them as an appendage of station; and I cannot but think that expenditure of this sort is a most desirable subject of taxation" (Mill 1848).

And still regarding positional concerns, Karl Marx famously notes that: "A house may be large or small; as long as the neighboring houses are likewise small, it satisfies all social requirements for a residence. But let there arise next to the little house a palace, and the little house shrink to a hut".

Eventually, Alfred Marshall, despite recognizing the role of interpersonal comparisons and the possibility to face interdependent utility functions, opts to keep these considerations aside to land to an easier diagrammatical treatment in his "Principles"[1]. John Maynard

[1] Acknowledgeable from Marshall's correspondence to Pigou and Cunynghame (Leibenstein 1950)

Keynes and Paul Samuelson will then do the same. The latter, acknowledging that external economies and diseconomies make his welfare analysis more complicated, simply ignores the problem (Samuelson 1947 as cited in Leibenstein 1950).

These latter approaches, by openly disregarding interdependence issues, have led to the current textbook formulation of a utility function recognizing no roles to interpersonal comparisons in consumers' behavior.

2.2 State of the art

Despite the universal recognition of positional concerns' weight in human motivation, the current textbook formulation of the utility function does not feature interpersonal comparisons, relative positional concerns or emulative behaviors.

The reason to a similar state of the art might be found in the greater ease of formulation of utility functions relying solely on the premise that consumption choices are independent from the decisions of others.

Another motive might be the supremacy of the life cycle and the permanent income approaches to consumption formulated respectively by Franco Modigliani and Milton Friedman over James Duesenberry's alternative based on positionality. The dominion of these theories has coincided with the inescapable assumption that subjects' preferences are independent (Modigliani and Brumberg 1954; Friedman 1957; Duesenberry 1949).

Thus, the neo-classical approach to consumer's utility might be expressed as a function of the quantity of goods consumed by individual i, c_i, with no relation to other subjects' consumption levels

$$u_i : \mathbb{R}_{++} \to \mathbb{R},\ u_i = u_i\left(c_i\right) \tag{1}$$

However, thanks the coalescence of psychology and economics leading to the birth of behavioral economics, new theories challenging shared assumptions in consumer's theory arisen.

Namely, Angela Chao and Juliet B. Schor suggest that when "... individuals ... share some degree of commonality in their ranking of the relative desirability (or status) of products and brands (and) consumption of the products (is) socially, or publicly, visible" a subject's consumption is also aimed at achieving a higher place in the social status ranking and this shall be included in the individual's utility function (Chao and Schor 1998). Moreover, considering Richard Layard and Robert H. Frank's works identifying a positive relationship between social interactions and the emergence of a quest for status (Layard 1985; Frank 1985a), a third condition, that is a certain degree of social interactions' frequency and subjects' proximity, might be introduced.

In sum, when such conditions are satisfied, consumers' utility functions shall be considered interdependent and they might be rewritten as a function of the quantity of goods consumed by individual i, c_i, of the consumption level of all other agents $c_{-i} = \{c_1, ..., c_{i-1}, c_{i+1}, ..., c_n\}$ and of i's inclination to interpersonal comparison towards others $\alpha_i \in [0, 1]$

$$u_i : \mathbb{R}^n_{++} \times [0, 1] \to \mathbb{R},\ u_i = u_i\left(c_i, c_{-i}, \alpha_i\right) \tag{2}$$

3 The formalization of conspicuous consumption

As mentioned above, textbook utility functions do not entail any references to interpersonal comparisons and they rely entirely on the premise of independence. But if above conditions

are respected, namely commonality of tastes, visibility of goods and frequency of social interactions, consumption might confer beside a certain degree of functionality also a precise position in the social rank. In this latter case positional concerns enter the utility function, eventually positing its interdependence[2].

I now turn to the definition of this new element of the utility function and, further, I derive a demand function in a status-seeking context.

3.1 The second element of the utility function

In 1899, Thorstein Veblen already notes the existence of two types of utility. The first one, in his opinion the only worthy of being pursued, is the utility that consists "in a net gain in comfort or in the fulness of life" (Veblen and Lekachman 1994) or the one achieved through the consumption of goods that "... furthers the life process taken impersonally ... (or that) ... serves directly to enhance human life on the whole" (Veblen and Lekachman 1994). The second one is the utility that relies solely on interpersonal comparisons: "... (on) the habit of making an invidious pecuniary comparison" (Veblen and Lekachman 1994)[3]. If the former is naturally present in *productive goods*, the latter is predominant in *consumption goods*. He eventually adds that both types of utility are present in the two categories, although in variable ratios: "Consumable goods, and even productive goods, generally show the two elements in combination, as constituents of their utility; although in a general way, the element of waste tend to predominate in articles of consumption, while the contrary is true of articles designed for productive use" (Veblen and Lekachman 1994).

In 1950, Harvey Leibenstein takes a step further towards the inclusion of positional concerns in utility and demand functions. Through a static analysis he defines the elements of a consumer's utility and he shows their effects on the demand curve.

First, he declines a consumer's demand in two categories: a *functional* demand and a *non-functional* demand with the former due to the inner qualities and functions of the commodity and the latter ascribed to *external effects on utility*, i.e. the effects on the utility due to factors other than the commodity's proper attributes or "... the utility derived from the commodity (that) is enhanced or decreased owing to the fact that others are purchasing and consuming the same commodity, or owing to the fact that the commodity bears a higher rather than a lower price tag" (Leibenstein 1950).

Further he divides external effects on utility in three sub-categories: the *bandwagon* effect, the *snob* effect and the *Veblen* effect. The first one refers to the degree to which the utility earned is *positively* related to the consumption level of others. The second one refers to the degree to which the utility earned is *negatively* related to the consumption level of others. The last one refers to the degree to which the utility earned is *positively* related to the price of the product. For the latter, Leibenstein further distinguishes two types of prices: the *real* price and the *conspicuous* price. With the second one being the amount that other people think the subject paid - the *label price* promoted by the supplier -, which in signaling the purchaser's wealth and power, eventually regulates his utility. For the purpose of clarity, he eventually adds a *speculative* and an *irrational* effect on utility (Leibenstein 1950)[4].

[2]See (2)

[3]It is worth noting that Veblen explicitly refuses the pejorative meaning of the term invidious. In using such adjective, he says "there is no intention to extol or depreciate, or to commend or to deplore any of the phenomenon which the word is used to characterize. The term is used in a technical sense as describing a comparison of persons with a view to rating and grading them in respect of relative worth or value" (Veblen and Lekachman 1994)

[4]It is worth noting that, in recognizing irrational effects on utility, Leibenstein anticipates the behavioral

3.2 An analytical approach to conspicuous consumption

3.2.1 Deriving a demand function when price enters the utility function

Following Harvey Leibenstein's analysis of the *Veblen* effect, when *price* enters the utility function for wealth-signaling activities, a demand curve describing the conspicuous consumption phenomenon might be derived as follows.

Assume that a subject i has a utility function[5]

$$u_i : \mathbb{R}^2_{++} \to \mathbb{R},\ u_i = u_i\left(c_i, p^c\right) \tag{3}$$

twice continuously differentiable, where both the subject's consumption c_i and the good's label price or conspicuous price p^c (Leibenstein 1950) boost the individual's utility u_i with diminishing effects: $\frac{\partial u_i}{\partial c_i}, \frac{\partial u_i}{\partial p^c} > 0$ and $\frac{\partial^2 u_i}{\partial {c_i}^2}, \frac{\partial^2 u_i}{\partial {p^c}^2} \leq 0$ with $\frac{\partial^2 u_i}{\partial c_i \partial p^c} \leq \sqrt{\frac{\partial^2 u_i}{\partial {c_i}^2} \frac{\partial^2 u_i}{\partial {p^c}^2}}$.

Through the maximization of the above utility function, subject to a standard budget constraint, the individual demand function derived is

$$c_i : \mathbb{R}^2_{++} \to \mathbb{R}_{++},\ c_i = c_i\left(p, p^c\right) \tag{4}$$

where $p \leq p^c$[6] and c_i, which is assumed twice continuously differentiable, is negatively related to the real price of the status good p, but positively related to its label price p^c: $\frac{\partial c_i}{\partial p} < 0$ and $\frac{\partial c_i}{\partial p^c} > 0$.

The individuals' demands, in aggregation, lead to the market demand

$$c : \mathbb{R}^n_{++} \to \mathbb{R}_{++},\ c = c(c_i) = \sum_{i=1}^{n} c_i \tag{5}$$

where n is the number of consumers.

Assuming that price information is common knowledge - hence $p = p^c$ - Leibenstein highlights that when the demand curve is not monotonically decreasing it is shaped as a backward S – as depicted in figure 1. In particular, there is a real price P over which no units are purchased, implying that there is a real price R over which the demand curve switch from being positively to being negatively sloped. There is also a point of satiety T implying that there is a minimum conspicuous price S under which Leibenstein's Veblen effect is zero, where the product has no value for wealth signaling activities (Leibenstein 1950). Thus, only the part of the demand curve between S and R is positively sloped. In that section Leibenstein's Veblen effect – the raise of the quantity demanded due to an increase of the conspicuous price – exceeds the price effect and conspicuous consumption arises.

3.2.2 Deriving a demand function when positional concerns enter the utility function

It is easily perceivable that a *label price per se* cannot be the actual *primum mobile* of an ostentatious behavior. So, after having derived the demand function when prices enter an

economics' notion of *bounded rationality*, first proposed by Herbert A. Simon in 1955

[5]For the purpose of brevity, I omit i's non-conspicuous goods consumption and his inclination to interpersonal comparisons (see (2))

[6]"These two prices would probably be identical in highly organized markets where price information is common knowledge. In other markets, where some can get 'bargains' or special discounts the real price or conspicuous price need not be identical. In any case, the quantity demanded by a consumer will be a function of both the real price and the conspicuous price." (Leibenstein 1950)

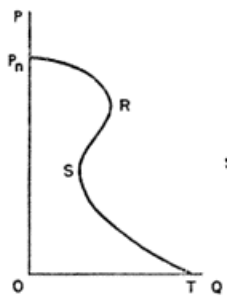

Figure 1: (Leibenstein 1950)

individual's utility function for wealth-signaling activities, I turn to the formalization of a demand function when a *pure positional concern* accesses the subject's well-being formula.

When interpersonal comparisons enter the utility function, (1) can be rewritten as (2) and the relation between a consumer's consumption and his peers' can be either positive or negative.

Robert H. Frank takes a step further towards the formalization of a utility function featuring positional concerns. To do so, he divides commodities in two categories: *positional* and *non-positional* goods - respectively, commodities whose consumption have value for wealth signaling activities and goods whose utility is not shaped by interpersonal comparisons. Further, he assumes the individual's utility to be influenced by the *amount* of positional and non-positional goods he consumes and by how that *compares* with the consumption level of his peers.

$$"U = U(x, y, R(x)) \tag{6}$$

where $x =$ positional *consumption level*, $y =$ nonpositional consumption level and $R(x)$ is a number between 0 and 1 indicating the percentile ranking of x in the population of x values. If $f(x)$ represents the density function for x values and x_0 is the smallest value taken by x in the relevant population, then an individual with $x = x_1$ will have $R(x_1) = \int_{x_0}^{x_1} f(x)\, dx$" (Frank 1985b, italics added)[7].

Thus a new utility function, assumed twice continuously differentiable, might be formalized as[8]

$$u_i : \mathbb{R}_{++} \to \mathbb{R},\ u_i = u_i(c_i, R(c_i)) \tag{7}$$

where both the subject's consumption c_i and the subject's percentile rank-order in the status distribution attained with the consumption of a certain quantity of status products $R(c_i)$ increase the individual's utility u_i with diminishing effects: $\frac{\partial u_i}{\partial c_i}$, $\frac{\partial u_i}{\partial R(c_i)} > 0$ and $\frac{\partial^2 u_i}{\partial {c_i}^2}$, $\frac{\partial^2 u_i}{\partial R(c_i)^2} \leq 0$ with $\frac{\partial^2 u_i}{\partial c_i \partial R(c_i)} \leq \sqrt{\frac{\partial^2 u_i}{\partial {c_i}^2} \frac{\partial^2 u_i}{\partial R(c_i)^2}}$.

[7]The idea to use the person's percentile rank-order to represent status concerns, instead of his consumption level with respect to the aggregate or mean consumption, is the same adopted by Richard Layard: in dealing with a study on human satisfaction and public policies, he affirms that to suppose a person's ranking in the society to be decreed by his income relative to the mean income is unrealistic and therefore unreasonable (Layard 1980)

[8]See footnote 5

Through the maximization of the above utility function, subject to a standard budget constraint, I derive the individual demand function

$$c_i : \mathbb{R}^2_{++} \to \mathbb{R}_{++},\ c_i = c_i\left(p, R\left(c_i\right)\right) \tag{8}$$

where c_i, which is assumed twice continuously differentiable, is negatively related to the real price of the status good p, but positively related to $R(c_i)$: $\frac{\partial c_i}{\partial p} < 0$ and $\frac{\partial c_i}{\partial R(c_i)} > 0$.

The market demand c, for n consumers, is derived as above:

$$c : \mathbb{R}^n_{++} \to \mathbb{R}_{++},\ c = c(c_i) = \sum_{i=1}^{n} c_i \tag{9}$$

3.2.3 Positional concerns and conspicuous prices entering the demand function: a synthesis

We might now ask whether conspicuous prices of single observable goods or quantities of status products are the most effective way to signal the individual's social position.

To pursue this question, I consider a simple example: imagine two consumers A and B, both concerned about their position in the social rank, engaging in a status-seeking game. A buys one pair of Gucci's for \$2000 – for a total expense of \$2000. B purchases four pairs of Prada's for \$1000 each – for a total expense of \$4000. If only B could be in his four pairs of shoes at the same time, B's signaled capacity of spending would double that of A. But as I keep myself from assuming B to have eight feet, observers will infer that A's status is double B's. Consequently, A is able to signal a higher standing in the social rank, with only half of the expense.

Hence, I suggest that price – not quantity – is the most effective way to signal an individual's social rank.

Considering above example, I now derive a demand curve including both elements of social rank and conspicuous price as follows.

Assume that a subject i has a utility function[9]

$$u_i : \mathbb{R}^2_{++} \to \mathbb{R},\ u_i = u_i\left(c_i, R\left(p^c\right)\right) \tag{10}$$

twice continuously differentiable, where both c_i or the subject's consumption level and $R(p^c)$ or the status attained through the consumption of a status good featuring a conspicuous price p^c raise the individual's utility u_i with diminishing effects: $\frac{\partial u_i}{\partial c_i}$, $\frac{\partial u_i}{\partial R(p^c)} > 0$ and $\frac{\partial^2 u_i}{\partial {c_i}^2}$, $\frac{\partial^2 u_i}{\partial R(p^c)^2} \leq 0$ with $\frac{\partial^2 u_i}{\partial c_i \partial R(p^c)} \leq \sqrt{\frac{\partial^2 u_i}{\partial {c_i}^2} \frac{\partial^2 u_i}{\partial R(p^c)^2}}$.

Through the maximization of the above utility function, subject to a standard budget constraint, I derive the following demand function:

$$c_i : \mathbb{R}^2_{++} \to \mathbb{R}_{++},\ c_i = c_i\left(p, R\left(p^c\right)\right) \tag{11}$$

where $p \leq p^c$[10] and c_i, which is assumed twice continuously differentiable, is negatively related to the real price of the status good p, but positively related to $R(p^c)$: $\frac{\partial c_i}{\partial p} < 0$ and $\frac{\partial c_i}{\partial R(p^c)} > 0$.

[9] *Ibidem*

[10] See footnote 6

Assuming $p = p^c$ (11) might be rewritten as

$$c_i : \mathbb{R}_{++} \to \mathbb{R}_{++},\ c_i = c_i\left(p, R\left(p\right)\right) \tag{12}$$

where c_i is still assumed twice continuously differentiable and $\frac{\partial c_i}{\partial p} < 0$, $\frac{\partial c_i}{\partial R(p)} > 0$.

The individuals' demands lead to the market demand

$$c : \mathbb{R}^n_{++} \to \mathbb{R}_{++},\ c = c(c_i) = \sum_{i=1}^{n} c_i \tag{13}$$

where n is the number of consumers.

Now, considering (12)-(13), I can define the price effect and the ranking effect as follows:

Definition 1. The price effect is the decrease in consumption due to a price increase, $\eta_p := \frac{\partial c}{\partial p}\frac{p}{c} < 0$.

Definition 2. The ranking effect is the increment in consumption due to a status raise, attained through the consumption of a status good whose price increased, $\eta_R := \frac{\partial c}{\partial R(p)}\frac{p}{c} > 0$.

Eventually, considering (12)-(13), *Definition 1* and *Definition 2*, conspicuous consumption might be defined as

Definition 3. Conspicuous consumption is the consumer's behavior arising if and only if the ranking effect exceeds the price effect in absolute value, $|\eta_R| > |\eta_p|$.

Conspicuous consumption might be interpreted geometrically as a positively sloped section in an otherwise negatively sloped demand curve.

4 The externalities of conspicuous consumption

4.1 The supposed benefits of conspicuous consumption

Mandeville and Hume, among many other classical economists, have a positive consideration of conspicuous consumption. They both affirm that the single's aggrandizement, acting as a boost to individuals' productivity, economic growth and prosperity, might eventually increase society's welfare as a whole.

Namely, Mandeville summarizes the benefits of ostentatious expenses in the aphorism "private vices, public virtues" (Mandeville 1966), while Hume acknowledges the benefits of luxury goods consumption stating that "... (the) consumption of all the commodities which serve to the ornament and pleasure of life, are advantageous to society; because at the same time that they multiply those innocent gratifications to individuals, they are a kind of storehouse of labor, which, in the exigencies of state, may be turn'd to the public service" (Hume 1825 as cited in Watkins 2019).

Even Keynes admits that a selfish quest for satisfaction might be advantageous to society. Indeed, while he seems to prefer socially useful ways to serve the community, he finds single-aggrandizement functional to public welfare (Watkins 2019, 919; Watkins 2015).

On the polar opposite, Veblen never recognizes to conspicuous consumption any role in the community wellbeing's enhancement. Although he concedes that these expenses might procure occupation and absorb the surplus caused by mass production, he does not ascribe to them any beneficial effect on the society (Watkins 2019). In Veblen's works, conspicuous

consumption and society's wants collide, namely in "The Theory of the Leisure Class", he considers a patent *waste of resources* any expense that does not serve "directly to enhance human life on the whole" or to "further the life process taken impersonally" (Veblen and Lekachman 1994).

4.2 Individual and society's optimal behavior: a game theory approach

Before examining the consequences of conspicuous consumption from a community standpoint, it is worth noting, as Frank did (Frank 1985a; Frank 1985b), that the addition of positional concerns in the utility function does not contradict the traditional assumption of perfect consumer's rationality – the neo-classical *homo economicus* - itself. In fact, when interdependent behaviors and interpersonal comparisons access an individual's satisfaction formula, wealth signaling activities become rational, utility maximizing, behaviors. But does a similar conduct also lead to the society's maximum welfare?

To investigate the matter, it is useful to consider an example similar to the one made by (Frank 1985b). Two persons, A e B, earn $1000 per month each. They consume two categories of commodities: *positional* goods and *non-positional* goods.

Positional goods are visible products or services which main purpose is to signal the purchaser's wealth and status – thus, the large part of their utility is *non-functional* (Leibenstein, 1950). According to Heffetz (Heffetz 2011), common examples might be cars, hotels, jewelry and clothes. The non-positional goods are instead non-visible commodities or services "which further the life process taken impersonally" (Veblen and Lekachman 1994), – hence whose utility is entirely functional (Leibenstein 1950). Namely, *productive goods* (Veblen and Lekachman 1994), leisure time, saving programs, risk insurances, health care services and investments in public goods.

Now suppose they have two possible consumption patterns: they can either spend the 70% of their income on positional goods and the remaining on non-positional goods; or conversely, they can spend the 30% of their salary on the former and the residual on the latter. In taking their consumption decisions, A and B value the importance of consuming an optimal quantity of non-visible goods and the relevance of surpassing peers in the social rank. As both A e B are strongly concerned about their position in the society, their payoff will depend on the choice of the other.

The two rank the outcomes as in figure 2: the rankings in the upper-left and lower-right cells suggest that without positional concerns each would find worthwhile to spend most of his income on non-positional goods; but neither would do that if in the process he lost positions in the status rank. A e B are confronting a standard example of prisoner's dilemma. The dominant strategy of both A e B is to spend the large part of their money on positional goods and consume a suboptimal quantity of non-positional goods. However, the lower-right outcome is poorer for both when compared to the still achievable upper-left result.

If positional concerns are incorporated in the utility function is easy to understand why individuals might find attractive to consume a suboptimal quantity of non-status goods to consume an increasing number of conspicuous products. In fact as Frank remarks, by positional expenditures each subject expects two sources of utility instead of just one: the satisfaction of consuming more goods *per se*, but also the satisfaction of surpassing a peer in the social rank (Frank 1985b).

Why then the lower right outcome is less satisfying than the upper-left one? This is

A	B: $300 Positional goods, $700 Non-positional goods	B: $700 Positional goods, $300 Non-positional goods
$300 Positional goods, $700 Non-positional goods	Second Best for A, Second Best for B	Worst for A, Best for B
$700 Positional goods, $300 Non-positional goods	Best for A, Worst for B	Third Best for A, Third Best for B

Total income $1000

Figure 2: Adapted from (Frank 1985b)

due to the illusoriness of the second element from a community perspective[11]. For, if everyone consumes more positional goods to reach higher levels, the distribution of the relative position in the ranking rests unchanged: "... the number of favored positions in any rank ordering is fixed inescapably by the laws of simple arithmetic" (Frank 1985b) as any individual's gain in the social rank strictly corresponds to another subject's loss: "For any contest to have a winner, it must also have a loser" (Frank 1985a).

In the end, from a society viewpoint, any status rank advancement is ephemeral, while the waste of resources in the process is tangible: "... the exchange that is so attractive from each individual's point of view has no similar allure when viewed from the perspective of the population as a whole" (Frank 1985b).

4.3 The tangible adverse consequences of a quest for status

As highlighted above, when individuals have strong positional concerns, the community's return for engaging in wealth-signaling consumption is considerably lower than the sum of the alleged individual gains.

That is, when viewed from the society standpoint, the *non-functional* utility of surpassing a peer, to reach a higher social standing, turns to zero and the global net utility corresponds to the aggregated *functional* utility of the singles only.

Again then, the utility is ephemeral, while the resources wasted in equilibrium are tangible. Eventually, in such a free-determined equilibrium, the consumption of status goods is patently over the optimum and conversely, considered a fixed income, expenditures on non-positional goods are below the optimal level. In sum, from a collective perspective, we lay in a suboptimal equilibrium point.

4.3.1 Negative economic externalities

Veblen summarizes the externalities caused by conspicuous consumption as follows: "... the requirements of pecuniary reputability tend 1) to leave but a scanty subsistence minimum available for other than conspicuous consumption, and 2) to absorb any surplus energy

[11] From a community standpoint, in (7) $R(c_i)$ is fixed at 1 (Frank 1985b)

which may be available after the bare physical necessities of life have been provided for" (Veblen and Lekachman 1994).

Therefore, given the above categorization of commodities, interpersonal comparisons might lead an individual to work more hours or to accept riskier tasks to signal a higher spending capacity. Subjects might be prone to sacrifice leisure time and they might be willing to work in dirtier and less safe workplaces (Frank 1985a). Moreover, positional concerns might even push a subject to spend less on health care, insurances or saving plans to consume more status goods than his peers.

Moreover, it is worth noting that in order to fulfill *ostentatious desires* a commodity must be private, as it is essential to exclude others from its use. Public goods, including nature, defense, clean air and water, energy and many other *non-observable* goods, do not meet these characteristics, as if they are produced they must be available to anyone. Therefore, an excessive expenditure on observable goods might come at the expense of the community's public investments and needs.

4.3.2 Negative social-psychological externalities

A quest for status does not only entail negative economic externalities, but also social-psychological adverse consequences.

Namely K.A. Konrad, highlighting how wealth-seeking conducts might cause social stratification and the emergence of a class structure, affirms the impossibility to experience any positive externality from an ostentatious behavior (Konrad 1992).

Furthermore, Xinsheng Jiang and Jinyu Wang, through a cross-lagged regression analysis, highlight a unidirectional causality between envy and depression, with the first strictly linked to positional concerns as "... the painful emotion that arises when a person realizes someone else outperforms them in a self-related domain ..." (Smith et al. 1996; Smith and Kim 2007 as cited in Jiang and Wang 2020) and "... a social emotion that also springs from upward social comparisons" (Smith et al. 1999 as cited in Jiang and Wang 2020).

Chatard et al. have also suggested that a comparison with other superior individuals is correlated with a negative self-evaluation (Chatard et al. 2017) – which, in turn, is again a key feature of depression defined by Jiang e Wang, citing Edward Bibring, as "... an emotional expression of ego helplessness and ego powerless" (Bibring 1953 as cited in Jiang and Wang 2020).

Eventually Redzo Mujcic and Andrew J. Oswald, examining envy on an Australian sample of 18,000 adults interviewed in 2005, 2009 and 2013, suggest that "rises in envy are associated with falls in well-being" (Mujcic and Oswald 2018). Not a surprising result, as Bertrand Russell in "The Conquest of Happiness", already reached a similar verdict: "Off all the characteristics of ordinary human nature, envy is the most unfortunate... not only does the envious person wish to inflict misfortune... but he is also himself rendered unhappy by envy... Whoever wishes to increase human happiness must... diminish envy" (Russel 1930 as cited in Mujcic and Oswald 2018).

4.4 Does someone profit from conspicuous consumption?

Up until now firms remained hidden. Nevertheless several questions over their role easily arise. Do firms profit from conspicuous consumption? Are they encouraging interpersonal comparisons? In section five I will address these questions examining the role of suppliers in a market characterized by positional concerns.

5 The role of suppliers and their advertising expenses

5.1 On price premiums and advertising expenses

In marketing and management disciplines, consumers are said to assess the benefit of a product using two criteria: its objective functional features - say, a Cartier ability of telling the time - and its subjectively perceived attributes - say, a Cartier ability of signaling the owner's social position. If the second element yields more than zero, the consumer will be willing to pay an above-average price – or in marketers' words: a *price premium*.

This categorization of the individual's satisfaction is the same used to introduce positional concerns in the utility function. Indeed, when "external non-functional effects" enter the individual's utility, an inflated price (Leibenstein 1950; Frank 1985a; Frank 1985b; Bagwell and Bernheim 1996) – or in Leibenstein's words: a *conspicuous price* (Leibenstein, 1950) – might arise. Consequently, in this model conspicuous prices and price premiums are considered as equivalent.

Furthermore, Akshay R. Rao and Kent B. Monroe highlight that *price premiums* arise in non-homogeneous markets, with a high variability of products' features (Rao and Monroe 1996), which from a marketing perspective is nothing but the consequence of firms' *differentiation strategy*. Such strategy is in turn defined by Michael E. Porter as a plan consisting in the creation of a *unique* and *exclusive product*, that eventually permits to levy a higher-than-average price (Porter 1985).

Hence, to ensure a growing sense of uniqueness, exclusivity and scarcity, and so to impose a price premium, in this model each supplier invests in its brand's image – or, in other words, in its *goodwill*, which is nothing but the quantification of its established identity and reputation in the marketplace.

Thus, the conspicuous price of a status good is positively related to its supplier s's goodwill g^s, which is in turn positively related to its investments in branding, image, promotion, endorsements and distribution channels generally grouped under *advertising expenses* a^s (Chenavaz and Eynan 2020).

5.2 A new demand function

Following *Section 5.1*, assuming a monopolistic competition type of market featuring n consumers i and m firms s, the consumption demanded by a generic i towards a generic s is

$$c_i^s : \mathbb{R}_{++} \to \mathbb{R}_{++},\ c_i^s = c_i^s\left(p^s\left(g^s\left(a^s\right)\right), R\left(p^s\left(g^s\left(a^s\right)\right)\right)\right) \tag{14}$$

where we assume $p^s = p^{cs}$, c_i^s twice continuously differentiable and $\frac{\partial c_i^s}{\partial p^s(g^s(a^s))} < 0$, $\frac{\partial c_i}{\partial R(p^s(g^s(a^s)))} > 0$ with $\frac{\partial p^s(g^s(a^s))}{\partial g^s(a^s)} > 0$.

Eventually, the demand faced by each supplier is

$$c^s : \mathbb{R}_{++}^n \to \mathbb{R}_{++},\ c^s = c^s(c_i^s) = \sum_{i=1}^{n} c_i^s \tag{15}$$

While the total market demand is

$$c : \mathbb{R}_{++}^m \to \mathbb{R}_{++},\ c = c(c^s) = \sum_{s=1}^{m} c^s \tag{16}$$

In this new setting, considering (14)-(15) we can define the residual price effect, the residual ranking effect and the residual goodwill effect faced by each firm as follows:

Definition 4. The residual price effect is the decrease in firm s's product consumption due to its price increase caused by an increment in s's goodwill yielded by a growth in its advertising expenses, that is $\eta_p^s := \frac{\partial c^s}{\partial a^s}\frac{a^s}{c^s} < 0$.

Definition 5. The residual ranking effect is the increment in firm s's product consumption due to consumer i's status raise, attained through the consumption of s's status good whose price increased due to an increase in its goodwill yielded by a growth in its advertising expenses, that is $\eta_R^s := \frac{\partial c^s}{\partial R(p^s(g^s(a^s)))}\frac{a^s}{c^s} > 0$.

Definition 6. The residual goodwill effect is the increase in supplier s product's price due to a growth in its goodwill attained through a raise in its advertising expenses, that is $\eta_g^s := \frac{dp^s(g^s(a^s))}{dg^s(a^s)}\frac{a^s}{p^s(g^s(a^s))} > 0$.

Eventually, by (14)-(15) and *Definition 4-5*, residual conspicuous consumption might be defined as

Definition 7. Residual conspicuous consumption is the consumer's behavior arising towards a generic firm s if and only if the residual ranking effect exceeds the residual price effect in absolute value, that is $|\eta_R^s| > |\eta_p^s|$.

Still, residual conspicuous consumption might be interpreted geometrically as a positively sloped section in an otherwise negatively sloped residual demand curve.

Finally, the following proposition might be established:

Proposition 1. When $|\eta_R^s| > |\eta_p^s|$ conspicuous consumption and its negative externalities arise and they are positively related to s's advertising expenses.

Proof. It follows directly from *Definition 7* and (14)-(16). □

5.3 The suppliers' profit and markup functions

After having re-defined conspicuous consumption and having highlighted its positive relationship with the supplier's advertising expenses, I finally turn to the actual producers' behaviors when the demand curve turns to be positively inclined.

In this paragraph I examine a generic monopolistic competition model showing that, in the positively sloped section of the demand curve, profit functions incorporating both positional concerns and advertising expenses predict, under few feasible conditions, positive markups that increase with advertising expenses; while a standard textbook profit function would wrongly predict negative markups.

5.3.1 Monopolistic competitors and their Lerner indexes

As suggested above, through a differentiation strategy a firm is able to levy an above-average price – namely a *price premium* or a conspicuous price - which by definition is higher than the marginal cost it incurs in (Porter 1985).

In these circumstances, assuming profit maximizing firms operating with no fixed costs and constant returns to scale, a generic profit function π^s might be formulated as margin times demand minus advertising expenses (Chenavaz and Eynan 2020)

$$\pi^s : \mathbb{R}_{++} \to \mathbb{R},\ \pi^s = \pi^s(a^s) = (p^s(g^s(a^s)) - k) \cdot c^s - a^s \tag{17}$$

Where π^s is assumed twice continuously differentiable and k, the marginal cost, constant among firms.

Assuming a solution to the profit maximization problem exists, from the monopolist's F.O.C. I derive the supplier's markup function

$$\frac{p^s\left(g^s\left(a^s\right)\right)-k}{p^s\left(g^s\left(a^s\right)\right)}=-\frac{1}{\eta_p^s+\eta_R^s}+\frac{\frac{a^s}{p^s\left(g^s\left(a^s\right)\right)\cdot c^s}}{\left(\eta_p^s+\eta_R^s\right)\eta_g^s} \tag{18}$$

Where η_p^s is the residual price effect - as per *Definition 4* -, η_R^s is the residual ranking effect - as per *Definition 5* - and η_g^s is the residual goodwill effect - as per *Definition 6*.

Remark 1. (18) might be interpreted as an advertising augmented Lerner index, accounting for the effect of firm's publicity expenses.

Furthermore (18) might be rewritten as:

$$\frac{p^s\left(g^s\left(a^s\right)\right)-k}{p^s\left(g^s\left(a^s\right)\right)}=\left(\frac{\frac{a^s}{p^s\left(g^s\left(a^s\right)\right)\cdot c^s}}{\eta_g^s}-1\right)\cdot\frac{1}{\eta_p^s+\eta_R^s} \tag{19}$$

Considering (19) we define advertising expenses efficiency and effectiveness as follows:

Definition 8. Firm s's advertising expenses are efficient if and only if the share of revenues invested in advertising expenses is greater than its residual goodwill effect, that is $\frac{a^s}{p^s\left(g^s\left(a^s\right)\right)\cdot c^s}>\eta_g^s$.

Definition 9. Firm s's advertising expenses are effective if and only if the average revenue per unit of advertising expense is greater than its marginal revenue with respect to its advertising expenses, that is $\frac{\left(p^s\left(g^s\left(a^s\right)\right)\cdot c^s\right)}{a^s}>\frac{\partial\left(p^s\left(g^s\left(a^s\right)\right)\cdot c^s\right)}{\partial a^s}$, where obviously $\frac{\partial\left(p^s\left(g^s\left(a^s\right)\right)\cdot c^s\right)}{\partial a^s}>0$.

Eventually the following proposition might be established:

Proposition 2. The supplier's markup is positive if its advertising expenses are efficient.

Proof. It follows directly from (19), *Definition 6-8*. □

Moreover, still considering (19) and assuming

Assumption 1. Conspicuous consumption is non-increasing in firm s's advertising expenses, $\frac{\partial\left(\eta_p^s+\eta_R^s\right)}{\partial a^s}\leq 0$.

Assumption 2. The residual goodwill effect is non-increasing in firm s's advertising expenses, $\frac{\partial\eta_g^s}{\partial a^s}\leq 0$.

the following proposition might be established as well:

Proposition 3. The supplier's markup is positive and it increases in its advertising expenses if they are efficient and effective.

Proof. It follows directly from *Definition 6-9* and *Assumption 1-2* as

$$\frac{\partial \frac{p^s(g^s(a^s))-k}{p^s(g^s(a^s))}}{\partial a^s} =$$

$$= \frac{\frac{\frac{1}{p^s(g^s(a^s))\cdot c^s} - \frac{a^s}{(p^s(g^s(a^s))\cdot c^s)^2}\frac{\partial\left(p^s(g^s(a^s))\cdot c^s\right)}{\partial a^s}}{\eta_g^s} - \frac{\frac{a^s}{p^s(g^s(a^s))\cdot c^s}}{\eta_g^{s2}}\frac{\partial \eta_g^s}{\partial a^s}}{\eta_p^s + \eta_R^s} -$$

$$- \frac{\left(\frac{\frac{a^s}{p^s(g^s(a^s))\cdot c^s}}{\eta_g^s} - 1\right)}{\left(\eta_p^s + \eta_R^s\right)^2}\frac{\partial\left(\eta_p^s + \eta_R^s\right)}{\partial a^s}$$

□

Remark 2. If I chose instead to rely on an orthodox demand and profit formulation when the demand curve turned to be positively inclined, namely

$$c_i^s : \mathbb{R}_{++} \to \mathbb{R}_{++},\ c_i^s = c_i^s\left(p^s\right)$$

$$c^s : \mathbb{R}_{++}^n \to \mathbb{R}_{++},\ c^s = c^s\left(c_i^s\right) = \sum_{i=1}^{n} c_i^s$$

$$c : \mathbb{R}_{++}^m \to \mathbb{R}_{++},\ c = c\left(c^s\right) = \sum_{s=1}^{m} c^s$$

$$\pi^s : \mathbb{R}_{++} \to \mathbb{R},\ \pi^s = \pi^s\left(p^s\right) = \left(p^s - k\right)\cdot c^s$$

from the usual monopolist's F.O.C., I would derive the following markup function:

$$\frac{p^s - k}{p^s} = -\frac{1}{\tilde{\eta}_p^s}$$

or the orthodox Lerner index, where $\tilde{\eta}_p^s$ is positive by the canonical definition of conspicuous consumption, that is a positively sloped demand function. Eventually, it would wrongly suggest a negative markup.

Therefore, when conspicuous consumption arises, a market endowed with monopolistic competition explicitly featuring positional concerns and advertising expenses such that the latter are both efficient and effective is characterized by a positive and growing supplier's markup; while a standard textbook model of monopolistic competition would instead be characterized by a negative one.

Clearly, when positional concerns arise, the model presented above predicts a more realistic outcome.

5.4 Advertising externalities

From *Proposition 2-3* I suggest that, when conspicuous consumption arises and advertising expenses are efficient and effective, profit maximizing suppliers earn markups which are positive and increasing with their advertising expenses.

However, this behavior enhances conspicuous consumption and its economic and social-psychological externalities.

Hence, as firms are nothing but economic institutions constituted by individuals who are in turn consumers, a profit maximizing behavior that enhances conspicuous consumption and its adverse consequences is patently not socially optimal.

6 Empirical support

Before introducing a few measures aimed at realigning the conflicting interests between firms and the generality of consumers, it is worth considering whether real world markups behave consistently to the model introduced above.

6.1 Research objective, panel description and data collection

This section aims at assessing whether growing advertising expenses actually translate into a positive and growing markup.

To address this question I build a second-degree polynomial regression model analyzing the non-linear relationship between advertising expenses and markups for firms operating in markets endowed with positional concerns.

The data used for this study are collected from a panel of 22 public owned holdings over a period of 20 years - or less if the IPO took place in between 2003 and 2022 or the company was delisted earlier than 2022. Moreover, manufacturers are grouped according to the market they operate in: namely luxury consumption goods - apparel, accessories and department stores -, high-end automotive and jewelry.

It is worth noting that each of any of the holdings listed above encompasses from one to several other companies operating in the same market, resulting in a panel of firms covering almost the entire population of status goods' brands.

Concerning the source of the data, values are collected from official end of the year financial statements. Namely, advertising expenses are collected directly under Operating Expenses either as advertising or communication or GS&A expenses[12]. The markup is calculated as the Net Operating Result/Total Revenue ratio. Where the Net Operating Result is defined as the difference between the Total Revenue and the Total Operating Expenses. Where in turn the Total Operating Expenses exclude advertising - accordingly to my model -, financial and other expenses. These two latter adjustments are required in order to keep the Net Operating Result as close to consumers' evaluations as possible and to discount any possible accounting strategy and non-commercial value recorded in the financial report.[13]

6.2 A second-degree polynomial regression

We adopt the following second-degree polynomial to conduct our regression:

$$y_{i,t} = \beta_0 + \beta_1 x_{i,t} + \beta_2 x_{i,t}^2 + \gamma_1 D_{1i} + \gamma_2 D_{2t} + \epsilon_{i,t} \tag{20}$$

where $y_{i,t}$ are the Markups (%), $x_{i,t}$ are the Advertising Expenses (1'000'000€), while D_{1i}, D_{2t} are control variables representing respectively markets and trend or years categories to address robustness issues. As usual, $\epsilon_{i,t}$ represents the residual.

The plot of observations including the fitted curve in figure 3 and the positive regression's coefficients reported in table 3 suggest how a growing advertising expenditure might indeed lead to a growing markup.

Furthermore, the high value recorded by the adjusted R^2, along with the significance of all coefficients, suggests a strong reliability of the analysis.

[12] GS&A expenses, comprising advertising, selling, distribution and related expenditures, is in line with the above definition of advertising cost

[13] Values in foreign currencies are converted in EUR€ at the exchange rate in force the last day of the reference year, as reported by the Bank of Italy

Table 1: Panel

Market	Company
Luxury Consumption Goods	LVMH
	Kering
	Moncler
	Luxottica
	Hermes
	Cucinelli
	Ferragamo
	Capri Holdings
	Canada Goose
	Ermenegildo Zegna
	Dior
	Burberry
	Chanel
	Prada
	Farfetch
	MYT
	Nordstrom
High-End Automotive	Ferrari
	Aston Martin
Jewellery	Richemont
	Tiffany
	Emperor Watch Jewellery

Table 2: Measures

	Observations	Min	Max	Median	Mean	Variance
Markup (%)	307	-43.58	64.79	35.71	36.52	324.42
Avertising Expenses (1'000'000€)	307	4.11	28151.00	415.50	2288.36	21389247.60

Table 3: Second-Degree Polynomial Regression Summary

	Dependent variable:		
	Markup (%)		
	(1)	(2)	(3)
Advertising Expenses (1'000'000€)	0.004756567***	0.004154508***	0.004179320***
	(0.000534938)	(0.000505586)	(0.000516757)
Advertising Expenses (1'000'000€)^2	−0.000000152***	−0.000000120***	−0.000000123***
	(0.000000025)	(0.000000024)	(0.000000025)
Markets		YES	YES
Trend		YES	
Years			YES
Constant	29.672970000***	33.886500000***	33.493080000***
	(1.080106000)	(2.265429000)	(5.152360000)
Observations	307	307	307
R^2	0.288693500	0.395678100	0.418598300
Adjusted R^2	0.284013900	0.385639500	0.371346500
Residual Std. Error	15.265690000 (df = 304)	14.140860000 (df = 301)	14.304410000 (df = 283)
F Statistic	61.691300000*** (df = 2; 304)	39.415780000*** (df = 5; 301)	8.858898000*** (df = 23; 283)
Note:			*p<0.1; **p<0.05; ***p<0.01

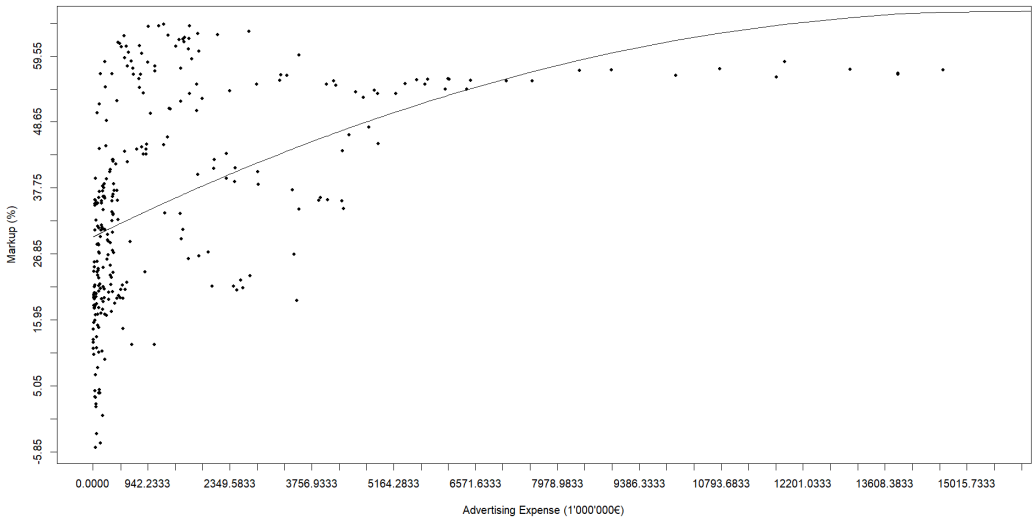

Figure 3: Plot of Observations and Fitted Curve

Considering above results, real world firms seem to be able to levy a positive and growing markup by increasing their publicity expenditures.

6.3 Comments

The results obtained above further highlight the urgency to investigate the effects of suppliers' behavior on consumers' wellbeing with great attention. Related feasible remedies shall also be addressed.

7 Some remedies

7.1 Escaping the prisoner's dilemma

How can a community escape the prisoner's dilemma to ensure an optimal consumption of non-observable goods and to reduce social-psychological externalities? Communication permits to find the way out of the quandary: considered the ephemeral non-functional utility in social equilibrium and the related tangible waste of resources, anyone would agree on some sort of restrictions on conspicuous expenditures. However, communication becomes complex in a society where millions of individuals are incapable to negotiate. And it is for this complication that state intrusion is legitimized.

7.2 Three "Demand-side" remedies

As I noted in the previous sections, deep in the human nature of any individual is the desire to display signs of power and status. Veblen notes how this aspiration induces subjects to work harder than needed to consume expensive products that are signs of their rank in the society. However, from a community standpoint, the result of the single's maximizing behavior is a mutual escalation of conspicuous expenditures that does not improve the social rank of anyone: *when all stand to get a better view, no one sees better than when all were seated*; moreover, for the extra spending leads to the under-consumption of non-visible goods - such as health care, insurance, leisure, saving and public goods -, the result is a welfare decrease: "For, though individuals are willing to make sacrifices to improve their individual position, the net result of status motivated action will be no increase in status satisfaction but an increase in sacrifice" (Layard 1980).

Ronald Coase suggests that if subjects could negotiate, they would resolve any delicate balancing issue efficiently; but when negotiation is impractical state intervention should push the party who bears the lowest cost to adjust to the externality (Coase 1960).

In this regard, the libertarian tradition only favors public interventions that impede damage to others. Namely, Mill lays the boundaries of state action in *harm prevention*: "The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others" (Mill 1859 as cited in Frank 1985a).

Considered our analysis, we take for granted that the adverse consequences of conspicuous consumption are enough to legitimize state intervention and three tentative approaches to public policy are thus advanced: a prohibition approach, a behavioral approach and a fiscal approach.

7.2.1 A prohibition approach

Both John Rae and Melvin Reder suggest that restrictions on conspicuous expenditures might result in a welfare gain. Rae affirms that limits on spendings for "pure luxuries" might save labor to some and be a loss to none (Rae 1905). Similarly, Reder invites the state to forbid "invidious expenditure", to free resources from *consumption* goods to *productive* commodities and enhance the community's well-being (Reder 1947).

However, history teaches us that prohibition schemes are unenforceable, notable failures are the national prohibition of alcohol or the puritan prohibition of wearing lace which eventually led to the inflation in buttons' market, making them a status good (Frank 1999). In this regard, Veblen considers invidious comparison a habit of mind so deep in human nature that might be bent but never eradicated (Veblen and Lekachman 1994), such that when prohibition is enforced, people simply take up invidious comparisons to a different sphere.

7.2.2 A behavioral approach

Layard, to offset individual status-seeking, considers a second measure: changing human nature. He examines the possibility "that the utility function could itself be changed by education, so that people get more pleasure from the welfare of others and less from the feeling of being better off than others are" (Layard 1980). Moreover, he affirms that people should not work to surpass others, but to perform tasks as good as possible and that the focus of the competition should be switched from other individuals to nature.

He further states that the main hurdles to reach this objective are institutions that strengthen the competition among individuals. Namely, parents encouraging sons to win sport matches, schools publishing grades, universities organizing mathematics contests, PhD programs awarding prizes to the best thesis and nations awarding decorations to the most meritorious citizens.

Frank remarks that "we should continue to teach our children not to envy the good fortunes of others. But such teachings, even if completely successful, will not eliminate welfare-reducing positional arms races, which stem less from envy than from the fact that many important rewards depend on relative consumption" (Frank 2005).

7.2.3 A fiscal approach

As mentioned above, communication solves the prisoners' balancing issue, but since any spontaneous change, if any, makes its way only tardily (Veblen and Lekachman 1994) or any private negotiation is simply not feasible (Coase 1960), state intervenes and the agreement eventually takes the form of taxation.

Namely, Edward Miller examines the effects of an excise tax on conspicuous goods through a simple diagrammatical analysis and he concludes that "a properly designed system of taxes can serve to shift the pattern of consumption towards a more desirable level. If all individuals in the society consume the status good, the effect of the imposition of a tax followed by the return of the proceeds of the tax to the taxpayers may be to make everyone better off ..." (Miller 1975).

Similarly, Yew-Kwang Ng sustains that arbitrarily high taxes on pure status goods - *diamond goods* - impose no excess burden, leaving the utility of the purchaser unchanged (Ng 1987). In particular, he highlights that "... a pure diamond good has an infinite tax in an optimal tax system ..." (Ng 1987). However, he concludes that the model ceases to be

a good approximation when the tax rate becomes very high as an infinite or excessive tax rate might in fact surpass the budget of the purchaser or lead to adverse consequences as evasion (Ng 1987).

Also Bagwell and Bernheim sustain that an excise tax on luxury products is a *nondistortionary tax on pure profits* as "... luxury brands are sold at the consumer's preferred price, which is tax inclusive, and does not vary with the tax rate. Thus, as long as the tax per unit does not exceed the difference between the consumer's preferred price and marginal cost, an excise tax on luxury brands amounts to a nondistortionary tax on pure profits" (Bagwell and Bernheim 1996).

The above policy proposals are not just theory, they have been put in practice in the US and in Canada. Namely, the Omnibus Budget Reconciliation Act of 1990 imposed a federal tax on many status goods including automobiles, aircrafts and jewelry. The OBRA established a 10 per cent tax rate on the sum exceeding certain limits, that are $30,000 for cars, $250,000 for aircrafts and $10,000 for jewelry (Bagwell and Bernheim 1996). Likewise, the Canadian Luxury Tax of 2022 established a tax rate based on the lesser of 20 per cent of the amount exceeding a threshold – namely, $100,000 for vehicles and aircrafts and $250,000 for boats – and 10 per cent of the value below the threshold (Urquhart and Shapka 2022).

However, despite luxury taxes seem to be the solution, Frank remarks that just like with prohibition, people will start competing elsewhere (Frank 1999).

If neither prohibitionism, nor a behavioral approach, nor a luxury tax are quite like the solutions, Frank suggests taxing consumption at a progressive rate and exempting savings. A lower level of consumption would slow down the positional treadmill. The halt of positional arms races would diminish the adverse consequences of conspicuous consumption and it would ensure an optimal expenditure level on non-status goods such as leisure, health and safety. Society would have more resources to foster social justice and security and the increased savings could be invested, to use Veblen's words, on *productive goods*, eventually enhancing economic growth. (Frank, 1999)

7.3 Two "Supply-side" remedies

As remarked above, a growing conspicuous consumption level is not only rooted in positional concerns *per se*, but it is also due to the luxury producers' behavior and their advertising investments. Thus, to battle the negative externalities induced by a conspicuous behavior, state intervention shall also focus on the suppliers' conducts and activities that foster *conspicuous waste*. Therefore, I suggest two measures to induce firms to spend less on advertisement to eventually invest in productive and welfare enhancing ventures.

7.3.1 A steeply progressive advertising tax

Given the adverse consequences of a prohibition approach and the difficulties of discriminating between positional and nonpositional goods' advertisement, I suggest a general, steeply progressive, tax on advertising expenses. This measure not only would discourage firms to lure on consumers' suboptimal consumption behaviors, but it would also free resources for more productive investments in, for instance, R&D, product's innovation, personnel's training and formation, workplace safety and diversification.

A supply-sider analysis of the measure would not hesitate to remark the presumed distortionary effects of a similar tax. However, when positional concerns enter the utility function and conspicuous consumption arises, taxation is no longer a policy in which lawmakers try

to minimize the distortion public intervention causes, but it becomes the remedy to an existing distortion of the consumption behavior.

A steeply progressive tax on advertising expenses, to be rebalancing, should reduce the supplier's markup deleting the extra gain produced by advertising expenses leading to the markup function it would experience if conspicuous consumption never emerged.

Hence, the following proposition might be established:

Proposition 4. In a market endowed with monopolistic competition, positional concerns and advertising expenses, a steeply progressive advertising tax rebalancing the conflicting interests between firms and the generality of consumers is

$$t^s\left(a^s\right) = -\frac{\eta_R^s \eta_g^s}{\eta_p^s} \cdot \frac{p^s\left(g^s\left(a^s\right)\right) \cdot c^s}{a^s} - 1 \tag{21}$$

Proof. It is enough to rewrite (17) as

$$\pi_t^s : \mathbb{R}_{++} \to \mathbb{R},\ \pi_t^s = \pi_t^s\left(a^s\right) = \left(p^s\left(g^s\left(a^s\right)\right) - k\right) \cdot c^s - \left(1 + t^s\left(a^s\right)\right) a^s$$

and, assuming a solution to the profit maximization problem exists, to derive s's markup function from its F.O.C. and to set it to $-\frac{1}{\eta_p^s}$, eventually solving for $t^s\left(a^s\right)$. □

A similar tax, accounting for the firm's *net* effect of advertising expenses on consumption through positional concerns $\frac{\eta_R^s \eta_g^s}{\eta_p^s}$ and for the firm average revenue per unit of advertising expense $\frac{p^s(g^s(a^s)) \cdot c^s}{a^s}$, eventually deletes the positive effect of advertising expenses on the firm's markup and it discourages its investment in publicity.

This results in the aspired decrease in conspicuous consumption and its economic and social-psychological externalities.

7.3.2 Changing the supplier's nature: the role of academia

The second approach might be defined *behavioral*. If pursuing profits at all costs causes major adverse consequences to the community's welfare, then striving towards the sole shareholders' interest is welfare diminishing and it shall be replaced with the broader pursuit of all stakeholders' satisfaction.

Subhabrata Bobby Banerjee highlights that already in 1951 Frank Abrams, chairman of the Board of the Standard Oil, asked managers "to become 'good citizens', aspire to a 'higher duty of professional management' and contribute to the 'solution of the many complex social problems of our times' because business firms were 'man-made instruments of society'" (Abrams 1951 as cited in Banerjee 2007).

Hence, following Abrams, firms shall develop a greater sensibility for *Corporate Social Responsibility* themes and they shall implement alternative models of governance, namely a *stakeholder* structure of governance.

Also academia, in shaping tomorrow's managers, has the duty to show alternatives to shareholder models and "pure" profit-maximizing behaviors.

In short, sole profit-seeking is not the optimal strategy, practical alternatives exist and they consist in the recalibration of the firm's aim and structure to properly serve all stakeholders' expectations, especially consumers'.

8 Conclusion

This article aspired to two results. It aimed at taking a few steps forward towards a proper formalization of positional concerns and advertising expenses in, respectively, demand and supply functions and it also aspired to highlight the conflicting interests between firms and the generality of consumers in a market characterized by conspicuous consumption; to finally suggest some remedies. In this work I also highlighted how an orthodox approach to an individual's utility and demand function, and to a supplier's profit and supply function, presents several flaws when interdependent behaviors and positional concerns are taken under proper consideration.

The starting point of this article was an analysis of the past literature and the state of the art of the contemporary demand theory. Then, by introducing price signals in an individual's utility function, I formalized a demand function to include status concerns and I showed when and how conspicuous consumption emerges, leading a textbook demand curve to be shaped as a backward S, hence, featuring a positively inclined section. Further, I highlighted the relevant economic and social-psychological externalities fostered by status goods' consumption. Furthermore, I turned to the analysis of the supply side of the phenomenon. Through an advertising augmented Lerner index I showed how advertising expenses, under certain conditions, lead to positive and growing markups when conspicuous consumption emerges. This results in conflicting interests between firms and the generality of consumers. I also conducted a second-degree polynomial regression over a panel of luxury goods suppliers in order to investigate the relationship between their advertising expenses and markups. And eventually, after a list of possible remedies to conspicuous consumption and its externalities, I suggested a steeply progressive advertising tax to limit the phenomenon and its negative downsides on consumers.

However, the role of positional concerns, interdependent behaviors and advertising expenses in shaping consumption patterns is still far from being entirely explained. My aim is to keep moving forward towards a proper formalization of the phenomenon to align, as much as possible, this model to the real world.

Final remarks

Any difficulty of formalization cannot be used as an excuse to choose simplicity. In a behavioral economics fashion, industrial organization should reflect the complexity of the real world and should not be artificially separated from other social sciences.

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