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# Conspicuous consumption, conspicuous health, and optimal taxation



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#### ABSTRACT

We present a simple model of status-seeking over multiple socioeconomic domains by introducing the concept of conspicuous health as an argument in the utility function, in addition to the well-established conspicuous consumption term. We explore the implications of such a utility function for optimal non-linear taxation, where an increase in concerns for conspicuous health has an opposite effect on the marginal tax rate, compared to an increase in concerns for conspicuous consumption. Using life satisfaction panel data from Australia, along with an improved measure of exogenous reference groups (that accounts for the 'time era' of respondents), we find empirical evidence of a comparison health effect.

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#### 1. Introduction

Often when individuals are asked about their general health level at any given point in time, the typical response is something along the lines: 'It could be better', or, 'It could be worse'. Although such a response may be regarded as everyday convention, it nevertheless implies some notion of a health comparison to a reference level (for example, to oneself at an earlier point in time, or to other individuals familiar to the respondent). Moreover, people have always been known to compare their physical state or appearance such as beauty, height and weight to others they might know, hear about, or view on television, for example.<sup>2</sup> Thereby, individuals are bound to experience a positive shock (presumably of relief or, in some cases, pride and self-esteem) from knowing that they are better looking, taller, fitter or healthier than relevant others in society.

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<sup>&</sup>lt;sup>2</sup> See Eckel and Petrie (2011) and Hamermesh (2011) for an overview of the importance of physical appearance on socioeconomic outcomes within society.

Within the economics literature, the role of relative concerns, or interdependent preferences, in explaining individual choice behaviour has been studied quite extensively in recent times (see Clark et al., 2008). The main focus has been on status effects arising from relative consumption (or income), usually defined as the ratio of own consumption to reference group or comparison consumption. The large number of studies using relative consumption as an argument in the utility function has lead researchers to view consumption as the premier signal of social status that individuals demand. As a result, little is currently known about the empirical importance and public policy implications of other social comparisons, i.e. the pursuit of status in other or multiple socioeconomic domains (see Veblen, 1899; Layard, 1980).<sup>3</sup>

In this paper we present a simple theoretical model of status-seeking over multiple socioeconomic domains by introducing the concept of *conspicuous health* as an argument in the utility function, in addition to the well-established conspicuous consumption term. We hypothesise utility to be increasing in own health and decreasing in comparison health. Individuals are assumed to experience a negative utility shock as others in their social reference group become healthier; for instance, as relevant others increase health inputs such as physical exercise, or reduce their alcohol and cigarette consumption. Thus, peer health is seen by agents as the baseline level of health that is expected of them in society (a health norm). Individuals then envy and strive towards the health of their peers upon realising that their own health levels can be improved (an upward revision in societal norms), or otherwise feel a sense of personal relief as the health of the reference group deteriorates (due to reduced social standards and expectations). Analogous to the literature on relative income or conspicuous consumption (Easterlin, 1995; McBride, 2001), this implies that an individual's relative health confers social status, where the status return from increased health may come from both a direct warm-glow of perceiving oneself to be more successful in a domain (a *direct* status effect), as well as from *indirect* increases in other final goods that come with higher status. These indirect advantages include superior mating partners, a better occupation or job title, enhanced social networks and social respect.<sup>5</sup>

We explore the implications of a utility function that includes a role for relative health concerns in terms of equilibrium labour choices and optimal income taxation, where we find an increase in concerns for conspicuous health to reduce the rationale for higher marginal taxation.<sup>6</sup>

The present paper is motivated by and adds to two main streams of literature; namely, the recent literature on status effects and social norms in health, and the rather scarce literature on multiple or simultaneous status races. Our focus on conspicuous health is partly motivated by a few recent studies that relate individual utility to relative physical appearance and fitness. For example, using a similar framework to Oswald and Powdthavee (2007), Blanchflower et al. (2009) consider utility to be relative in people's body weight, or obesity, as measured by the body mass index (BMI). The authors find some empirical support for a relative obesity effect in Germany. Clark and Etilé (2011) test for social interactions in BMI between spouses, and find the effect of own BMI on individual well-being to depend on partner BMI, suggesting the presence of social contagion effects in physical weight. Similarly, using survey panel data from the United States and Russia, Graham and Felton (2007) find individuals who depart from the BMI of their local peers to experience significant losses in reported well-being.

In another study, Carrell et al. (2011) use a novel data set consisting of interactions between randomly assigned college students from the US Air Force Academy to study the effect of peer fitness on (own) individual fitness. The authors find that subjects do attempt to mimic the fitness levels of their peers, with the probability of failing a basic fitness test increasing by threefold when around fifty per cent of one's friends become out-of-shape. While the study does not directly model a utility function with a relative fitness term, it does appeal to such a motivation by arguing that an individual's desire to become fit depends on the fitness of his or her peers. The motivation is subtly different from ours in that the authors implicitly presume the strength of concern for fitness itself to increase if one's peers become fitter, which is more of an endogenous identity effect rather than a relativity effect.

At the same time, only a handful of studies have explicitly considered utility functions with multiple status effects. For example, Frijters and Leigh (2009) study a society where social competition over visible consumption and leisure is present. The importance of conspicuous leisure is assumed to decrease in the resident turnover rate of a given neighbourhood, thus leading the 'stayers' to substitute toward signalling their relative consumption. Aronsson and Johansson-Stenman (2012) provide a theoretical study on optimal income taxation when the importance of relative consumption depends on leisure, where the authors interpret Veblen's (1899) arguments on leisure to imply that conspicuous consumption becomes more visible and thus more salient for relative utility when leisure increases. The authors base their analysis on the Stern (1982) and Stiglitz (1982) 'two-type' optimal income taxation model, where informational asymmetries exist between the social

<sup>&</sup>lt;sup>3</sup> A notable exception has been the leisure domain, first highlighted by Veblen (1899), and empirically examined by a number of recent studies, including Pingle and Mitchell (2002), Alpizar et al. (2005), Solnick and Hemenway (1998), Carlsson et al. (2007), and Frijters and Leigh (2009). Most of the studies find relative leisure to be of importance for individual well-being and choice behaviour, however less positional than income or consumption. Moreover, Layard (1980) makes note of other non-material domains where relative concerns are also of importance such as effort, education, and sporting ability, i.e. the presence of simultaneous status races.

<sup>&</sup>lt;sup>4</sup> Based on concepts from psychology and sociology, we refer to a 'norm' as the comparison point or social standard towards which an individual aspires and is expected to achieve. This is the same definition used and implied by other earlier studies on comparison effects. See, for example, Easterlin (1995), McBride (2001), Clark (2003), Eggers et al. (2006), and Graham and Felton (2007).

<sup>&</sup>lt;sup>5</sup> For more detailed discussions about the economic and social value of status, and its importance for market behaviour; see, for example, Ball and Eckel (1998), Becker and Murphy (2000), Ball et al. (2001), and Johansson-Stenman and Martinsson (2006).

<sup>&</sup>lt;sup>6</sup> Several theoretical studies have explored the optimal tax implications of conspicuous consumption; e.g., Boskin and Sheshinski (1978), Layard (1980), Oswald (1983), Frank (1985), Ireland (1998), Ljungqvist and Uhlig (2000), Hopkins and Kornienko (2004), Abel (2005), Wendner and Goulder (2008), and Aronsson and Johansson-Stenman (2008).

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