

Preferences for Status: Evidence and Economic Implications*

Ori Heffetz

Cornell University

Johnson Graduate School of Management

oh33@cornell.edu

Robert H. Frank

Cornell University

Johnson Graduate School of Management

rhf3@cornell.edu

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Abstract

This chapter was prepared for Elsevier's *Handbook of Social Economics* (edited by Jess Benhabib, Alberto Bisin, and Matthew Jackson). It brings together some of the recent empirical and experimental evidence regarding preferences for social status. While briefly reviewing evidence from different literatures that is consistent with the existence of preferences for status, we pay special attention to experimental work that attempts to study status directly by inducing it in the lab. Finally, we discuss some economic implications.

Keywords: Preferences for status, positional concerns, subjective well-being, conspicuous consumption, positional externalities, relative income, status experiments.

JEL Codes: C90, D01, D1, D62, Z10, Z13

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1. Introduction

What are our ultimate objects of desire? Is social status one of them?

In its most abstract form, rational choice theory is general enough to incorporate virtually any assumption about the nature of preferences, including assumptions about the objects over which preferences are defined. Until relatively recently, however, the overwhelming majority of applications of the theory—common examples include models of consumer choice, household behavior, labor markets, the macroeconomy, etc.—assumed that the ultimate objects of desire are individually consumed goods (and leisure). Well-being in these applications is a function of the (absolute) amounts consumed of these commodities.

This assumption stands in stark contrast to how psychologists, sociologists, marketers, and researchers in other closely related disciplines view preferences. Recent decades have seen movement by economists on this issue, more of whom are now willing to consider new arguments in the utility function. In this chapter, we focus on one such argument: social status.

The idea that individuals are often motivated in their behavior by a quest for social status is not new. It goes back to the earliest writings known to humanity. It has been a recurring theme, for example, in poetry, literature, religion, and philosophy throughout the millennia, and was a central theme in Western political philosophy well before the birth of economics. This idea—which is manifest in Hobbes's assertion that "men are continually in competition for honour and dignity" (cited in Hirschman 1973)—has been later echoed by economists such as Smith (1776), Marx (1849), Veblen (1899), Duesenberry (1949), and their successors. More recently, social status has been increasingly given attention by economists in both theory and

empirical work. Our emphasis in this chapter is on the latter.

Our main goal is to review the growing body of evidence that bears on the hypothesis that people care about status. We stress from the outset that much of the evidence we review is consistent with more general theories, of which a preference for status is but one possible interpretation. For example, as discussed at length below, concerns about status per se and concerns about relative position (relative consumption, relative income) are closely related. Evidence regarding positional concerns is consistent with, but does not require, preferences for status. Positional concerns can be extremely important even in the lack of status concerns. They emerge, for example, when our perception of the quality of a good is determined by comparing it with what we consider a typical good, which in turn depends on what is typically consumed around us (Frank 2007).

One consequence of this ‘evidence overlap’ is that evidence that is relevant to our topic has been accumulating in several different literatures, from empirical studies of happiness and income to experimental studies of social preferences. We attempt to bring this evidence together and make explicit its relationship with hypotheses regarding preferences for status.

Our second goal is to summarize briefly the economic implications of status seeking. None of these is particularly new: they follow from models and theories that, for the most part, predate the evidence presented in this chapter. Moreover, we again point out that many of these theories were not originally developed with status being their only (or even their main) interpretation, and their implications hence do not depend on this interpretation. Examples include early ‘modern’ models and applications like Pigouvian taxation, Buchanan and

Stubblebine's (1962) treatment of externalities, Becker's (1971) analysis of discrimination, Becker's (1974) theory of social interaction, and Frank's (1985a) model of positional goods. Furthermore, as discussed below, some of the main implications of even those theories that were developed specifically to model status are implications of *features* of status (such as its zero-sum nature). Hence, these implications too are mostly interpretation-independent.

Because of this 'model overlap', again, many of the models (and their implications) that can be interpreted as models of status are surveyed and discussed elsewhere. Although we discuss specific models as they relate to specific evidence or implications, a comprehensive review of the theoretical work that is relevant to status is beyond the scope of this chapter. We also do not review studies from disciplines other than economics (see, e.g., Frank 1999 and Ball and Eckel 1996, 1998, for a partial review of studies in psychology, biology, sociology, social psychology, marketing, and other disciplines). However, we discuss individual studies that are closely related to work in economics.

Finally, an excellent presentation of the main ideas from sociology and their economic applications is given in Weiss and Fershtman's (1998) survey of social status and economic performance. After discussing the definitions, measurement, and determinants of status, the authors review models of status and their economic implications regarding, for example, wages (e.g., Frank 1985b, Chapter 2) and growth. They further discuss equilibrium models and evolutionary models, and conclude by pointing out both the importance of and the lack of empirical evidence: "while it seems intuitively plausible that individuals care about their social standing, the importance given to such considerations relative to monetary returns must be

demonstrated empirically” (Weiss and Fershtman 1998). This chapter can thus be viewed as picking up the discussion where Weiss and Fershtman (1998) left it. Indeed, the chapter aims to demonstrate that much has changed in the last decade with respect to evidence. Furthermore, because new experimental evidence on status seems to have gotten less attention (and, for the most part, is not surveyed elsewhere), we review this evidence in special detail, outlining the main findings, their strengths and weaknesses, and what we believe still needs to be done.

The rest of this chapter proceeds as follows. In the next section we define social status and discuss three of its main features as an argument in the utility function—that it is positional, desirable, and non-tradable. In section 3 we review evidence related to each of these features. In section 4 we discuss some economic implications, focusing on labor markets as one class of markets where these may be particularly important. Section 5 concludes.

2. Features of Status

We start by discussing features of social status. We focus on three features that we believe are salient, are instrumental to evidence on status, and underlie much of the implications of status. The three are by no means exhaustive. They merely reflect one way in which the evidence presented later can be conveniently arranged.

2.1 Positionality

To set the stage for a discussion of preferences for social status, we first note that status is inherently positional. Of its many definitions, in sociology and other literatures, it is hard to find

one that does not use the words “position” or “rank” (the *Merriam Webster Dictionary* indeed uses both, defining status as a “position or rank in relation to others”). Weiss and Fershtman (1998) define social status as “a ranking of individuals (or groups of individuals) in a given society, based on their traits, assets, and actions.” They point out that although different members of society may have different rankings, sufficient agreement exists to render status a powerful incentive mechanism. Ball et al. (2001) define it as “a ranking in a hierarchy that is socially recognized and typically carries with it the expectation of entitlement to certain resources.” For a definition in sociology, see, e.g., Ridgeway and Walker (1995, p. 281).

The positionality of status is central to the discussion in this chapter, since it underlies both much of the evidence regarding the existence of preferences for status and many of the economic implications of such preferences. Since status is, by definition, positional, it follows that as an object of desire it enters the utility function as a positional good. Following Hirsch (1976), Frank (1985a) defines positional goods as “those things whose value depends relatively strongly on how they compare with things owned by others,” and develops a formal model that has become a workhorse in the status and in related literatures. In the model, the utility from consuming positional goods depends both on the amount consumed and on how this amount compares to amounts consumed by others. See Frank (1985b, 1999) for discussions and references, and Clark et al. (2008) for extensions and updates.

One immediate consequence of the positionality of status is that its consumption imposes negative externalities: an increase in someone’s relative status automatically translates to a decrease in the relative status of (at least some) others in the relevant reference group. This

feature makes the *status game* (Congleton 1989) not unlike a Prisoner's Dilemma, in which an agent's attempt to improve her or his (relative) outcome results in an inefficient equilibrium. A direct implication is that status goods are over-consumed and hence, as is typical in such cases, policy interventions that solve the dilemma could be Pareto improving. We discuss such implications and welfare enhancing policies in section 4 below.

2.2 Desirability

One may wonder what makes status desirable (i.e., why it enters the utility function). The second half of the definition in Ball et al. (2001) above provides one potential answer: status typically carries with it the expectation of entitlement to certain resources. In other words, status may be viewed—and desired—merely as an intermediate good. According to this view, status acts as a non-monetary currency. Like (real) money, it enters agents' (reduced form) utility only as a useful simplification: ultimately, people desire the *resources* that status can buy. Weiss and Fershtman (1998, p. 802) share this approach and give examples:

A person of high status expects to be treated favorably by other individuals with whom he might engage in social and economic interactions. This favorable treatment can take many forms: transfer of market goods, transfer of non-market goods (through marriage, for instance), transfer of authority (letting the high status person be the leader), modified behavior (such as deference or cooperation) and symbolic acts (such as showing respect). Because of these social rewards, each individual seeks to increase his social status

through group affiliation, investments in assets (including human and social capital) and an appropriate choice of actions.

Indeed, as Weiss and Fershtman (1998) point out, the question of whether or not to model status as entering the utility function is reminiscent of the question of whether or not to model money as entering the utility function—an old question for monetary economists.

A related approach is found in Ball and Eckel (1996, 1998). Citing research from sociology, the authors point out that status could be valued as a signal (which may or may not be accurate), and that people may react to status in others because it potentially provides economically useful information about individuals—like education in a Spence-type model. Under this interpretation, status seeking could result from a signaling equilibrium, rather than from preferences (or tastes) for status itself.

Proposing yet another (related) approach, Ball et al. (2001) motivate their work with a simple model in which individual utility depends both on consumption and on the status of individuals with whom an individual trades. In their model, status is exogenously distributed, and people desire to *associate* with those with high status. This could be interpreted as an underlying cause and, simultaneously, as an effect, of individuals' (revealed) preference for obtaining status when status is endogenous. Notice, however, that when status is endogenous, association with high status individuals could—while enhancing one's global status (by affiliating with a high status group)—harm one's local status (by worsening one's position relative to one's associates).

Is status then desirable in and of itself, or is it only desired as a means (a currency, a signal, etc.) to achieving other resources? As with education and, ultimately, with money, these two apparently different underlying mechanisms may be harder to distinguish—both

conceptually and practically—than they initially seem. Status is probably desired for various reasons at the same time, including that we “simply like it” (its consumption value) and that it can do things for us (its asset value).¹ Can the two be disentangled, say, by a clever experimental manipulation in a controlled lab environment? We review work that attempts to do just that. However, social status artificially divorced from some of its essential features may simply cease to be social status as we understand it. We return to this point below when discussing specific studies (see section 3.2).

2.3 Non-tradability

Finally, as discussed above, status is conferred by society, and cannot be directly purchased in an explicit market for status.² In other words, it is non-tradable. Depending on context, an individual’s ability to gain status may be severely limited (for example, when status is hereditary) or less so (for example, when status depends on effort at the workplace). To the extent that one’s actions have any effect on one’s status, however, these actions have to affect the social perceptions through which status is conferred. In other words, status-seeking activities must be socially visible (either directly or through their socially visible outcomes). As discussed below (in section 3.3), this has far-reaching implications.

We emphasize, however, that in calling status non-tradable we do not mean to exclude the existence of *implicit* markets for it. For example, an individual can often actively choose the reference group in which that individual’s local status is determined, effectively engaging in transactions in such implicit status markets (Frank, 1984, 1985b). By switching to a firm with a

¹ Closely related to these explanations of the desire for status is work on the relationship between status and health, where a key question is whether higher social status improves health (and if so, by how much). See e.g. Rablen and Oswald (2008) for a recent discussion (including a short survey) and new evidence on the longevity of Nobel Prize winners (compared to nominees).

² See Becker et al. (2005) for alternative assumptions.

different wage distribution one can influence one's status at the workplace. Similarly, by moving to a different neighborhood one could affect one's local position among one's neighbors. We return to this point when we discuss implications.

3. Evidence

3.1 Positionality

If individuals had preferences for status, and status in turn were conferred on the basis of an individual's economic outcomes such as income, wealth, consumption, etc., then such outcomes (or their combinations) would have to enter the utility function positionally. That is, not only would absolute income and wealth matter, but so too would relative income and relative wealth. Do economic measures like income, wealth, and consumption enter the utility function positionally?

3.1.1 Happiness vs. utility

Although far from providing conclusive answers, a large and growing body of work, referred to in economics as the *happiness* literature, suggests that relative position affects well-being. For example, Frank (1999, Chapter 5) surveys studies that show that different measures of happiness and well-being are often found to correlate positionally with economic variables. These measures range from self-reported happiness questions in surveys to electromagnetic activity levels at different sites in the brain.

Although, as we discuss shortly, the validity of each as a measure of well-being is not uncontroversial, they are remarkably consistent with one another. Furthermore, this consistency holds when they are compared either across alternative sources or across alternative observable

behaviors that are commonly regarded as manifestations of happiness. The former include, for example, an individual's happiness as reported by friends. The latter include increased propensity to initiate social contact with friends and to help others, and decreased propensity for psychosomatic illnesses, absences from work, involvement in disputes at work, and committing suicide.

This cross-measure consistency suggests that these happiness measures may provide evidence regarding the actual shape of the utility function. In a recent comprehensive survey of the happiness literature, Clark et al. (2008, section 4) return to the discussion regarding the relationship between measures of happiness and the economist's notion of (decision) utility. They point out that since an econometric identification of utility requires data we might never have access to, any discussion is forced to rely on circumstantial evidence. Summarizing different types of such evidence, they cite new studies that show correlation between self-reports and physiological and neurological phenomena (smiles, brain activity), reports by others (who watch pictures or video, or who are friends or family), evaluations by third parties of open-ended interviews, and other measures. They also discuss the correspondence between happiness correlates and observed choice behavior, which reflects on the correspondence between subjective well-being (which is found predictive of future behavior) and utility theory.

Clark et al. (2008) close their discussion by reminding the reader to remain cautious, citing evidence on mispredictions and on the malleability of happiness answers. Similarly, Kahneman and Krueger (2006) argue that while different measures of well-being are useful for different purposes, such subjective measures should not be taken as measuring "utility as economists typically conceive of it." See also Kahneman et al. (2006), and Diamond's (2008) related discussion of the survey questions that are often used in studies that link happiness with

income of oneself and with that of others. Diamond (2008) expresses the concern that “such studies may not shed light on the question of how much well-being depends on one’s relative standing and how much the respondent looks to relative standing in order to answer the survey question.”

3.1.2 What does the happiness evidence show?

With these caveats in mind, the happiness literature provides ample evidence of the positionality of income. For example, Veenhoven (1993) shows the by-now famous example of Japan, where the average reported level of well-being in surveys remained virtually stable over decades during which national income increased dramatically (doubling several times). Known as the Easterlin paradox (Easterlin 1974, 1995), the finding that growth of real national income is not associated with a higher national level of reported happiness has been observed in many Western industrial economies (Easterlin 2005). See Scitovsky (1976) for an early discussion along similar lines.

Other authors have questioned Easterlin’s conclusion that, in advanced economies, economic growth does not improve human well-being. Frank (2005), for example, argues that rising per-capita income is associated with lower infant mortality, cleaner environments, better health in old age, and a variety of other clear improvements in well-being, irrespective of whether those improvements are reflected in responses to happiness surveys. Indeed, a widely discussed recent paper by Stevenson and Wolfers (2008) argues that careful analysis of national time-series data reveals a positive relationship between average happiness and per-capita income.

In their survey of the literature, Clark et al. (2008) review studies that document the Easterlin paradox, as well as counterexamples where an aggregate income-happiness correlation

does exist (East Germany in the 1990s; see Frijters et al. 2004). Drawing on prior surveys of the empirical literature on happiness and well-being (Kahneman, Diener and Schwartz 1999, Layard 2005, Frank 1999), the authors list the following three stylized facts: (a) cross-section regressions (with or without demographic controls) within a country show a significant income-happiness correlation, with a higher correlation in developing than in developed countries; (b) panel data that control for individual fixed effects show that changes in real incomes are correlated with changes in happiness, with exogenous income variations showing causal effects on happiness (again with larger coefficients in transition than in developed economies); and (c) large samples of cross-time cross-country data show that happiness moves with macroeconomic measures like GDP, growth, and inflation.

Finally, summarizing previous discussions, the authors show how a simple model with social comparisons (where consumption enters the utility function both traditionally and positionally) is consistent with other evidence as well. Such evidence includes, for example, Clark and Oswald (1996), who regress job satisfaction on personal income and on predicted income of a comparison group and find coefficients of equal magnitude but opposite sign. Their finding is consistent with job satisfaction being purely positional in income.

Ferrer-i-Carbonell (2005) conducts a similar exercise with subjective well-being, and she, too, finds a negative coefficient. Furthermore, testing asymmetry, she finds—consistent with Duesenberry’s (1949) “demonstration effect”—that individuals tend to compare themselves with others whose incomes are higher than their own. Luttmer (2005) employs richly detailed panel data to further confirm the importance of local comparisons. He documents a robust negative association between individual happiness measures and average neighborhood income, a link that does not appear to stem from selection effects. See Clark et al. (2008) for recent evidence

from different countries (Latin America, China), with different comparison groups (the wages of coworkers, family, friends), and from experimental studies; Frank (1999, pp. 140-142) for evidence from studies of serotonin in monkeys; Zink et al. (2008) for recent evidence on humans' neural responses (from brain imaging) to hierarchy in a lab-game setup; Solnick and Hemenway (1998, 2005), Alpizar et al. (2005), and Carlsson et al. (2007) for survey evidence on positional concerns; and Alesina et al. (2004) for evidence on the relationship between inequality and happiness.

3.1.3 Social preferences

Finally, positional concerns are closely related to a growing literature on what in the last decade have come to be known as *social preferences*. For surveys and evidence (mostly from lab experiments), see, e.g., Charness and Rabin (2002) and Fehr and Schmidt (2006). Although a discussion of this fascinating literature is beyond the scope of this chapter, we point out that, for example, Frank's (1985a) model of relative concerns is closely linked to (one side of) the Fehr-Schmidt inequity aversion model: an individual whose income is less than her associate's, and who acts to reduce her associate's income, could be viewed as reducing either a positional disadvantage or a disadvantageous inequality.

Interestingly, some lab results suggest that individuals may under some conditions be willing to do the opposite. For example, Charness and Rabin (2002) report that half of their participants chose a payoff of 375 for themselves and 750 for their opponent in a simple choice game in the lab, over the alternative of 400 for themselves and 400 for their opponent. Although one should be cautious regarding any extrapolation from this to real world contexts, such choices (as well as previous findings that the authors review) are predicted by neither positional concerns

nor inequity aversion (nor by the standard model with self-interested agents maximizing absolute payoffs for themselves).

3.2 Desirability: experimental evidence on status

A growing body of experimental evidence has shed light on the question of whether status is desirable as a means or as an end. Much of this work has focused on demonstrating that status (or status perceptions) can affect economic outcomes, hence demonstrating that status *could* be desired merely as a means to improved economic outcomes. At the same time, new work attempts to measure directly the extent to which individuals forgo real resources to gain status in a lab context. This work suggests that status may be desired even when it does not result in any economic benefits.

This literature is new and is still quickly evolving. Most of the evidence we review has been published in the last decade (or indeed is yet to be published), and much of it remains only suggestive (but nonetheless interesting). In this section, we review this evidence critically in the hope of helping steer this exciting research in what we believe are promising directions.

3.2.1 Status correlates

Measuring trust through trust game experiments, Glaeser et al. (2000, Table VII) show that individuals with characteristics believed to be correlated with high status systematically realize higher gains. These characteristics include, among others, whether or not a subject's father has a college degree, and "two proxies for 'coolness' or charisma in this [undergraduate] subject population: beers drunk per week and whether the individual has a sexual partner." The authors find, for example, that having a sexual partner positively predicts trusting behavior, and that all

status correlates predict a tendency to elicit trustworthiness in others.

The two “coolness” proxies may of course be correlated with trusting and trustworthy behaviors through channels unrelated to charisma or status. As the authors point out, a finding that high-status individuals earn more in the trust game could be driven by many different mechanisms. “For example, high status individuals may elicit trustworthy behavior because they are relatively skilled at socially punishing or rewarding others.”

A natural way to confront this issue is to conduct controlled experiments where subjects’ social status is directly manipulated. For obvious reasons, such studies present difficult challenges. Next, we describe a few brave attempts to overcome them.

3.2.2 The effects of status

In pioneering work, Ball and Eckel (1996, 1998) and Ball et al. (2001) directly manipulate status in the lab. They artificially award subjects high or low status, and study how it affects economic outcomes in negotiation (ultimatum game) and market (“box design” market game) environments. They show that their manipulation affects behavior and that individuals awarded high status in the lab enjoy favorable economic outcomes (improved earnings).

The status manipulation in these experiments involves asking subjects to take an economic trivia quiz, on the basis of which they are assigned either to high-status (“Star”) or low-status (“No Star”) groups. Subjects are told that group assignment is “based on their answers” to the quiz. Crucially, however, they are not told that the quiz is graded not according to the correctness of their answers, but rather according to a criterion that makes the assignment into status groups essentially random.³ High-status group members (Star subjects) are publicly

³ Specifically, grades consist of the total sum of numerical answers to quiz questions (regardless of their correctness), and subjects are divided into groups along the median sum.

awarded gold stars to wear on their clothing during the experiment, are applauded by No Star subjects, and are visibly given other symbolically-preferential treatment by the experimenters. These manipulations aim to establish their high status.

The authors' finding that Star subjects earn significantly more is intriguing. Interpreting this finding, however, is difficult. The authors distinguish between earned and unearned status and note that in real life, status comes with entitlement (citing Lerner 1970, they refer to just-world theory, according to which "many people believe that in a just world, people get what they deserve and deserve what they get."). Thus the difficulty is that it is unclear whether subjects perceive Star status as linked to entitlement. While "subjects should think that subjects with stars are more deserving than their no-star counterparts" (Ball and Eckel 1996), subjects "likely considered the test to be unfair" (Ball et al. 2001).

As these observations suggest, the direction of any bias in the authors' findings will depend on whether subjects considered status to have been earned fairly. Furthermore, the very belief by subjects in the existence of *any* (non-random) criterion may contaminate the results. If Star subjects are believed to deserve their high status, they are viewed, in effect, as being different from others in their features or behavior. For example, if subjects believe that high-status individuals were more successful in answering the quiz, they might believe high status individuals to be better economists, more intelligent, more intuitive, etc. This may confound the estimated effects of status with the effects of perceptions of these other features.

Recognizing this, Ball et al. (2001) run additional experimental sessions where status is awarded based on a publicly administered lottery, a criterion that subjects should consider "meaningless but fair." They find that when awarded (visibly) randomly, status has a stronger

effect on market results.⁴ That the effect is found sensitive to implementation confirms the above concerns, and highlights some of the fundamental difficulties underlying the entire status-experiments endeavor. DiNardo (2007) beautifully makes a few related points (especially see his discussion in section 3.1 “Randomized Controlled Trials” and section 4 “Just Because We Can Manipulate It Doesn’t Mean We Can Learn About It”). One important issue he raises is “the hope that ‘how’ the treatment is assigned is irrelevant to the effect ... on the outcome. If the effect of the putative cause is implementation specific, it is often more helpful to abandon the effort to find the effect of the putative cause and ‘settle’ for the effect of the ‘implemented cause.’” As Ball et al. (2001) demonstrate, how status is assigned in the lab is indeed relevant to its effects. Paraphrasing DiNardo (2007), then, the most we may be able to do is describe the causal effect of a Star manipulation administered in one specific way, rather than referring to the measured effect as “the effect of status.”

With this in mind, Ball and Eckel (1996, 1998) and Ball et al. (2001) demonstrate the possibility that status and, indeed, other social factors substantially affect economic outcomes. Furthermore, they demonstrate (in the ultimatum game experiments) that these effects may disappear when stakes are increased. In the market experiments, Ball et al. (2001) also find, surprisingly, that when status is awarded privately (that is, other subjects are not aware of a subject’s status group), results are reversed: higher status subjects’ earnings are *lower* than those of lower status ones. They nicely summarize this finding: “Although definitive conclusions await further experimentation, this limited evidence implies that status must be publicly revealed to be effective. This suggests that deference by the low-status group is at least as important as

⁴ As Ball et al. (2001) note: “This contradicts Hoffman and Spitzer (1985) who show that an earned advantageous role made subjects more willing to exploit their opponents than a randomly assigned advantageous role.” Although Hoffman and Spitzer (1985) award power (or power and status) rather than pure status (but see Greenberg and Ornstein 1983), more work is clearly required.

confidence on the part of the higher-status group.” We further discuss visibility and anonymity below (see section 3.3).

Other attempts to study the effects of status in the lab using the Star manipulation include Eckel and Wilson’s (2006) attempt to study how status perceptions affect learning, and Kumru and Vesterlund’s (2008) study of voluntary contributions. The discussion above underlines the potential high impact of such efforts. Many important questions await further work.

3.2.3. Do People Value Status for Its Own Sake?

Although it is clear that people might value status because of its instrumental role in securing material benefits, some studies suggest that people also value status for its own sake. Huberman, Loch, and Öncüler (2004), for example, have studied the desire for status in a lab setting where status arguably entails neither access to power nor to resources. They find that subjects are indeed willing to trade off money for temporary status in the lab.

In their cleverly designed experiments, subjects invest game cards (in the experiment’s first stage) to win the right to participate in a lottery (in the second stage). The investment is costly because the more one invests in the first stage, the lower are the expected lottery winnings (conditional on participation) in the second stage. Under the “status condition,” which is similar to the above Star manipulations, the winner of the right to participate in the lottery is announced publicly, is given a small tag saying “Winner,” and is congratulated by all participants with applause. Convincingly arguing that these expressions of status could not be used to gain other resources either in the lab (during the experiment) or outside of it, the authors interpret the higher first-stage investment in the status condition as evidence that participants value status independently of monetary consequences. They run the experiment in five countries (the U.S.,

Turkey, Hong Kong, Germany, and Finland) and find, for example, significantly stronger reactions to status in Hong Kong than in Finland.⁵

To summarize the discussion in this section regarding the causes behind the desire for status, we quote from the last paragraph of Huberman, Loch, and Öncüler (2004, p. 112):

Under which circumstances may an individual perceive status as a means or as an end? One might reasonably hypothesize that both mechanisms are at work simultaneously all the time. Which one is more important at any given point probably depends strongly on the situation: for example, the size of the rationally recognizable rewards and the salience and nature of the status symbol may influence what is included in a decision to act. This topic would be highly relevant for understanding when one can motivate people with incentives as opposed to emotions, but no theory currently addresses this question; it requires further research.

3.3 Non-tradability: evidence on visibility

The non-tradability of status—that it is conferred by society and cannot be directly purchased—implies that the only way to obtain status is through actions that are socially visible (or that have socially-visible consequences). Indeed, if we assume that status depends on actions, status-seeking individuals are expected to change their behavior in predictable ways depending on whether their actions are visible to others. The observation that they often do, however, is consistent not only with preferences for status, but also with any preferences where others' opinions are important (e.g., because of considerations of reputation, shame, fear of punishment,

⁵ Ball and Eckel (1996, p. 398) claim that “Asian consumers, perhaps because of the structures of their society, tend to be very status oriented.” See references there.

etc.). This should be borne in mind when interpreting the evidence below.

Anecdotal evidence that the visibility of actions affects behavior is prevalent and includes many everyday facts, such as the anonymity promised to our experimental subjects and survey participants, and to us as journal referees. More generally, that the private sphere in our lives is so carefully kept separate from the public sphere may suggest that individuals strongly care about society's perceptions of them.

Systematic evidence for this proposition abounds in the economics literature. A recent typical example regarding voluntary giving is Rege and Telle (2004), who show that people contribute substantially more to a public good when both their identity and the amount they gave are made visible to others. Similarly, Ariely, Bracha, and Meier (2007) find that making one's behavior visible to others affects prosocial behavior. They discuss their findings in the context of "image motivation—the desire to be liked and well-regarded by others" but, as discussed above, a desire for status is equally consistent with their findings. For a recent survey see Bekkers and Wiepking (2007, section 5 "Reputation", pp. 29-31), who review studies that tie charitable giving, generosity, and philanthropic behavior to reputation concerns. For example, they cite studies showing that the likelihood and the size of donations are likely to increase with the social status of the donor and, independently, of the solicitor. Such image-driven giving has come to be referred to as *conspicuous compassion*, a play on Veblen's (1899) term *conspicuous consumption*.

More evidence is provided by economists' studies of awards. As Frey and Neckermann (2008) point out, "all awards share certain essential features," among which are that "awards are always visible, be it via a public ceremony or because the award itself can be publicly displayed." They indeed find, in a vignette experiment on the labor force in an IBM facility, that

reported hypothetical contribution to a public good increases not only with the monetary value of the reward but also with the degree of publicity associated with winning the award.

A different approach is taken by Heffetz (2007), who conducts a nationally-representative survey among U.S. households to rank the visibility of thirty-one consumption categories. Using U.S. household expenditure data, he shows that, on average, higher-income households spend larger shares of their budgets on more visible categories. This finding is consistent with Veblen's (1899) conspicuous consumption idea as modeled by Ireland (1994), where consumption is a visible signal sent to society in order to advertise one's income and gain social status. Similarly, Charles, Hurst, and Roussanov (2007) show that black and Hispanic households in the U.S. spend more on visible categories than white ones. They show that most of the difference can be explained by mean income differences in reference groups, as predicted by a similar conspicuous consumption model of status seeking.

Finally, recent evidence from experimental evolutionary psychology establishes causality from anonymity—or, surprisingly, from mere cues of reduced anonymity, when actual anonymity is kept constant—to changed behavior. For example, Haley and Fessler (2005) find that individuals increase generosity in a dictator game when they are presented with a mere visual cue (stylized eyespots on a computer screen, which might remind subjects of the possibility that somebody may be watching them), in spite of no differences in actual anonymity. Kurzban, DeScioli, and O'Brien (2007) show that reducing anonymity causes people to punish more.

Although such findings, like others mentioned above, are often discussed in the context of reputation concerns, they may equally support status interpretations. Haley and Fessler (2005), for example, interpret their findings as showing that we are wired to react to subtle cues of

observability, which in turn affect our prosocial behavior.⁶ Indeed, in many contexts status is conferred on prosocial individuals (for example, those who are known to be generous, or who punish perceived moral violators).

3.4 Evolutionary considerations: a tie-breaker?

When empirical evidence is consistent with multiple interpretations, we often seek further guidance from *a priori* considerations. Do such considerations have anything useful to say about whether status is valued for its own sake?

The Darwinian model provides a useful framework for thinking about what human and animal nervous systems are molded to do. Robson (2001, section 2.4 “Preferences for Status”) surveys models that can be interpreted as providing a biological basis for preferences for status. Robson and Samuelson (this volume) survey work on the evolutionary foundations of preferences (for example, for positional consumption). Bisin and Verdier (1998) study the intergenerational cultural transmission of such preferences. Departing from the formal approach in these studies, here we briefly discuss some of the main considerations that could favor preferences for status.

According to Darwin, animal drives were selected for their capacity to motivate behaviors that contribute to reproductive success. Reproductive success, in turn, is fundamentally about resource acquisition: other things equal, the more resources an animal has, the more progeny it leaves behind. What matters is not the absolute number of offspring an individual has, but rather how its progeny compare in number with those of other individuals. A specific trait will thus be favored by natural selection less because it facilitates resource acquisition in

⁶ However, as Ellingsen and Johannesson (2007) point out, findings like Haley and Fessler’s (2005) could also be viewed as suggesting mechanisms other than respect, esteem, or status seeking, since they demonstrate that people react to a mere eyespots cue rather than to whether they think they are actually being watched.

absolute terms than because it confers an advantage in relative terms.

Frequent famines were an important challenge in early human societies. But even in the most severe famines, there was always some food. Those with relatively high resource holdings got fed, while others often starved. On the plausible assumption that individuals with the strongest concerns about relative resource holdings were most inclined to expend the effort necessary to achieve high rank, such individuals would have been more likely than others to survive food shortages.

Relative resource holdings were also important in implicit markets for marriage partners. In most early human societies, high-ranking males took multiple wives, leaving many low-ranking males with none. Even in contemporary societies, sexual attractiveness is strongly linked to relative resource holdings. So here, too, theory predicts that natural selection will favor individuals with the strongest concerns about relative resource holdings.

Do similar considerations say anything about whether people should be concerned about rank per se? In other domains, we see evidence that appetites are favored by natural selection because they promote reproductive success on the average, even though they may fail to do so in specific cases. Extreme thirst, for example, can motivate an irresistible urge to drink, even when the only available liquid is unsuitable for drinking. Thus, if salt water is the only liquid at hand, even an informed scientist might drink it, despite the knowledge that doing so will hasten her or his death. Evolution favored such appetites because they are beneficial on the average. Remaining well hydrated is essential for survival, and individuals suffering from extreme thirst are more likely than others to expend the effort necessary to find something suitable to drink.

It is plausible to imagine that an appetite for status evolved under similar pressures. Acquiring more status may not always produce rewards sufficient to compensate for the effort

necessary to acquire it. But it could have led to sufficiently valuable rewards often enough that the most expedient option was a nervous system that cared about it for its own sake.

That said, much of the evidence discussed in this chapter remains circumstantial and far from conclusive. Overall, it probably raises as many fascinating questions about status as the ones it attempts to answer. The quest for truth continues.

4. Some Economic Implications

The most general implications of preferences for status are straightforward: as Ball et al. (2001, p. 162) point out, “If status is desirable, individuals are willing to sacrifice consumption to obtain it” (*consumption* here is interchangeable with *resources*). Combining the desirability of status with the other two features of status highlighted above—its positionality and its non-tradability—sharpens this statement. The positionality of status implies that status seeking diverts resources away from welfare-enhancing uses, wasting them—from the point of view of society as a whole—on efforts to win a zero-sum game. The non-tradability of status implies that the resulting inefficiencies could be manifest in different (and sometimes unexpected) markets, as they assume a role as implicit status markets.

The main insight is modeled in Frank (1985a): in the existence of positional goods—goods that enter the utility function both as an absolute component and as a relative one—an increase in one’s consumption of these goods imposes a negative externality on others. Frank (2007) compares the resulting situation to a military arms race between two nations, where the utility from expenditures on weapons depends heavily on the relative stocks of armaments in the two nations. He notes that a necessary and sufficient condition for equilibrium expenditures on armaments to be inefficiently high from the collective vantage point is that relative position

matter more for armaments than for alternative expenditures, e.g., expenditures on consumption goods. In a similar manner, if expenditures on houses are more positional than safety at the workplace, people will accept inefficiently risky jobs (at higher pay than safer ones).

These examples illustrate the familiar result that goods that impose negative externalities tend to be over-consumed. Furthermore, with a utility function that has both a (standard) absolute and a relative consumption components and is—as is standardly assumed—concave in absolute consumption, the marginal utility from additional consumption through the absolute term approaches zero as income rises. The relative component hence becomes increasingly important as income rises. Status seeking, on this view, becomes increasingly important with economic growth.

This negative ‘positional externality’ exists independently of additional externalities that may be imposed by the consumption of specific status-enhancing goods (e.g., the negative externality imposed by a polluting, status-enhancing car). Indeed, Congleton (1989) argues that status games that impose such additional negative externalities “may be replaced by games generating no externalities or, better still, by games generating positive externalities” (e.g., visible contributions to public goods). If he is correct, then the negative positional externality imposed by status seeking may to some extent be coupled with a positive externality generated by engaging in specific status-enhancing activities. Fershtman and Weiss (1998) study the conditions under which such coupling—which may or may not be sufficient to achieve efficiency—is evolutionarily stable (in that individuals who care about status survive in the long run). As documented above, evidence suggests that individuals engage in both types of status activities: those that impose negative and those that impose positive externalities, in addition to the negative positional externality imposed by any status game.

The insight that positional goods impose a negative externality can be applied in many different contexts.⁷ Clark et al. (2008, section 5) discuss economic and policy implications of relative concerns in the utility function. They discuss implications for economic growth (where the main insight is that with relative concerns, growth above a certain minimum level does not lead to happiness); for income distribution (if the relative term in the utility function is concave, more inequality would mean a less happy society); for labor supply (which would not decline in spite of increasing incomes);⁸ for the measurement of poverty (poverty may be relative rather than absolute);⁹ for saving and investment; and for migration (where, e.g., Stark and Taylor 1991 argue that the reason elites in poor countries do not emigrate is that their relative position would decline if they moved).

Positional concerns have far-reaching implications for taxation. In Frank's (1985a) model, a tax on positional consumption could correct the distortion imposed by the negative externality discussed above. A similar tax could correct the distortion of the under-consumption of leisure in models where leisure is less positional than income. Although the possibility of conspicuous leisure has long been recognized (Veblen 1899), evidence suggests that leisure could in many contexts be less visible (Heffetz 2007) and less positional (Solnick and Hemenway 1998) than consumption. Furthermore, in increasingly mobile societies, conspicuous status symbols that are immediately recognized, portable, and easily transportable increase in importance. Clark et al. (2008) discuss mobility taxes that are meant to correct the imbalance between the increased visibility of conspicuous consumption items and the decreased visibility of

⁷ Remember that, as discussed above (e.g. in the Introduction), this insight does not depend on interpreting positional concerns as necessarily stemming from status concerns.

⁸ Also see, e.g., Bowles and Park (2005) for evidence on a positive correlation between total hours worked and higher earning inequality, both across countries and over time within countries; and Landers et al. (1996), who find that associates in large law firms state that they would prefer an across-the-board cut of ten percent in both hours and pay.

⁹ See, e.g., Sen's (1999) discussion of what he terms "relative deprivation."

conspicuous leisure in mobile societies. See, for example, Boskin and Sheshinski (1978), Ng (1987), Ireland (1998), and Layard (2005) for further discussion of tax remedies for positional externalities; and Frank (2008) for further policy responses to these externalities.¹⁰

4.1 Labor market implications

Finally, one problem confronting all studies that attempt to apply models of positional concerns to real world contexts is that we never know who is in the reference group people care about. Do people compare themselves with co-workers who occupy adjacent offices? With neighbors? With classmates from high school or college? Although identifying the relevant reference group has always proved a formidable challenge, comparisons with one's co-workers are likely to be important. We therefore close the discussion in this section with applications of positional concerns to labor markets. We hope thus to demonstrate the economic implications of such concerns in the context of one important class of markets.

Much of the evidence above (e.g., regarding the positionality of wages and income in relation to job satisfaction and happiness, and regarding awards among workers) indeed suggests that concerns about local rank may be especially important in the workplace. Other studies suggest that labor markets are affected by positional concerns even when the relevant reference group is outside the workplace. In some contexts such concerns may affect labor outcomes more than traditional factors like local wage and unemployment rates. For example, Neumark and Postlewaite (1998) study labor force participation among a sample of biological full sisters.

¹⁰ Other related work includes, e.g., work on the economic inefficiencies that result from status seeking as a zero sum game (Congleton 1989); the implications of positional wealth on risk taking behavior (Robson 1992); and the welfare implications of positional income (Ng and Wang 1993). Fershtman et al. (1996) study the implications of status seeking on the distribution of talents in society and hence on growth, and show that the latter may be enhanced by an inequality-reducing redistribution of wealth. Weiss and Fershtman (1998) discuss the economic implications of status seeking behavior on saving, occupational choice, investment in skills and risk taking, and point out that these in turn may affect economic efficiency, growth rates and the distribution of income.

Although their results are not strongly statistically significant, they estimate that a woman whose sister's husband earns more than her own husband is 16 to 25 percent more likely than others to seek paid employment. The authors thus provide some evidence of the wisdom of H. L. Mencken's definition of a wealthy man as one who earns at least one hundred dollars a year more than his wife's sister's husband.

The hypothesis that local rank at the workplace matters has testable implications for the distribution of wages within firms (Frank 1984). If some value high local rank more than others, then economic surplus is maximized by having workers sort themselves into separate firms in accordance with their respective valuations. Hence, within a firm, the equilibrium distribution of wages will be more compressed than the corresponding distribution of marginal products. In effect, the labor market serves up compensating wage differentials for local rank, much as it does for other nonpecuniary employment conditions. This pattern, which is widely observed (Frank 1985b, Chapter 4), is inconsistent with models in which local rank has no value.¹¹

Loch et al. (2001) explore the managerial implications of status seeking in the workplace, and urge managers to take an active approach. The authors suggest firms can motivate their employees, managing and channeling the status-striving phenomenon “into a powerful motivator serving the goals of the organization.” Their advice to managers is closely related to the discussion above regarding the reasons status is desirable: is it desired mostly as a means to an end (e.g., through increased access to resources) or as its own end? Loch et al. (2001) suggest that managers, rather than viewing status as a means and hence trying to eliminate status seeking

¹¹ Notice the difference between this approach and, e.g., Fershtman and Weiss (1993), who assume that “status is mainly conferred through occupational association.” As the authors point out, their alternative approach, which emphasizes global rather than local status (see the related discussion in section 2.2 above), naturally leads to different predictions. In recent work, Fershtman et al. (2003) reemphasize the importance of local status in the workplace. They study the benefits (“gains from trade”) of cross-individual heterogeneity in status seeking and in what individuals view as their reference group.

behavior by breaking the connection between status and resources, should view status as its own end and manipulate “the environment and the criteria and symbols of status within the organization.” Their promise to managers: “We are genetically driven to strive for status, not dollars. ... If you can create non-monetary symbols of status within the organization, you will be able to get the benefits of status seeking without the high financial cost.”

Ellingsen and Johannesson (2007) further generalize the discussion, and ask why people work. They argue that although economists have been correct to emphasize the importance of incentives as motivators of work, they have been missing an important part of the picture by almost exclusively focusing on monetary incentives. Discussing evidence dating back to the Hawthorne experiments (conducted during 1924-1932), they note the importance of non-monetary incentives such as respect and attention given to employees as motivations of work. They point out that respect could be paid by an employer or a manager, as well as by coworkers. This blurs the boundaries between respect and status, as both are something that is desired, is conferred by society, cannot be directly purchased, may be based on personal characteristics, etc. In other words, the “evidence that respect matters in the workplace” they present (including recent interesting experimental work) could be interpreted as evidence for workers’ preferences for status.

As discussed above regarding models that allow for positional consumption, when income rises, the (absolute) consumption benefit approaches zero, and workers are increasingly left with the positional benefit alone. Interpreted as a status component in the utility function, this raises an intriguing question: If workers increasingly work for status, would they not be willing, at least under some conditions, to replace (at least some) monetary income with direct status payments? According to Ellingsen and Johannesson (2007), this indeed seems to be

happening. If most extra income is spent on status seeking, an employer could indeed pay directly with status rather than with money. Of course, if competitive pressure led all firms to adopt this strategy, the tendency for the within-firm average wage to equal the within-firm average value of marginal products would be restored.

5. Conclusion

In this chapter we examined the potential of preferences for status to be an important driver of economic outcomes. Over the last decades, abundant evidence has been accumulating that is consistent with the hypothesis that they indeed are. This evidence has been arriving from many—and quite different—research programs. By sampling and discussing some of this evidence we hope to have established the importance of the social status agenda among economists.

At the same time, we have tried to emphasize that since much of the evidence is also consistent with competing hypotheses, further work is still needed. We also argued that while experimental effort might provide a promising step in answering some of the most intriguing open questions regarding status and status-seeking behavior, attempts at causal demonstrations based on direct manipulation of status in the lab have so far raised more new questions than they have answered. While it may be seen as frustrating by some, this state of affairs guarantees that the status agenda in economics is not likely to disappear in the foreseeable future.

References

Alesina, Alberto, Robert McCulloch, and Rafael Di Tella. 2004. “Inequality and Happiness: Are Europeans and Americans Different?” *Journal of Public Economics*, 88: 2009-42.

Alpizar, Francisco, Fredrik Carlsson, and Olaf Johansson-Stenman. 2005. "How Much Do We Care about Absolute Versus Relative Income and Consumption?" *Journal of Economic Behavior and Organization*, 56: 405-21.

Ariely, Dan, Anat Bracha, and Stephan Meier. 2007. "Doing Good or Doing Well? Image Motivation and Monetary Incentives in Behaving Prosocially." Federal Reserve Bank of Boston Working Paper No. 07-9.

Ball, Sheryl B., and Catherine C. Eckel. 1996. "Buying Status: Experimental Evidence on Status in Negotiation." *Psychology and Marketing*, 13(4): 381-405.

Ball, Sheryl B., and Catherine C. Eckel. 1998. "The Economic Value of Status." *Journal of Socio-Economics*, 27(4): 495-514.

Ball, Sheryl B., Catherine C. Eckel, Philip J. Grossman, and William Zame. 2001. "Status in Markets." *Quarterly Journal of Economics*, 116(1): 161-88.

Becker, Gary S. 1971. *The Economics of Discrimination*, 2nd ed. Chicago, IL: University of Chicago Press.

Becker, Gary S. 1974. "A Theory of Social Interactions." *Journal of Political Economy*, 82(6): 1063-93.

Becker, Gary S., Kevin M. Murphy, and Ivan Werning. 2005. "The Equilibrium Distribution of Income and the Market for Status." *Journal of Political Economy*, 113(2): 282-310.

Bekkers, René, and Wiepking, Pamala. 2007. "Generosity and Philanthropy: A Literature Review." <http://ssrn.com/abstract=1015507>.

Bisin, Alberto, and Thierry Verdier. 1998. "On the Cultural Transmission of Preferences for Social Status." *Journal of Public Economics*, 70: 75-97.

Boskin, Michael, and Eytan Sheshinski. 1978. "Optimal Redistributive Taxation when Individual Welfare Depends on Relative Income." *Quarterly Journal of Economics*, 92(4): 589-601.

Bowles, Samuel, and Yongjin Park. 2005. "Emulation, Inequality, and Work Hours: Was Thorstein Veblen Right?" *Economic Journal*, 115: F397-F412.

Buchanan, James and Craig Stubblebine .1962. "Externality." *Economica*, 29(116): 371-84.

Carlsson, Fredrik, Olaf Johansson-Stenman, and Peter Martinsson. 2007. "Do You Enjoy Having More than Others? Survey Evidence of Positional Goods." *Economica*, 74: 586-98.

Charles, Kerwin, Erik Hurst, Nick Roussanov. 2007. "Conspicuous Consumption and Race." University of Chicago Working Paper.

Charness, Gary, and Matthew Rabin .2002. "Understanding Social Preferences with Simple Tests." *Quarterly Journal of Economics*, 117(3): 817-69.

Clark, Andrew E., Paul Frijters, and Michael A. Shields. 2008. "Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles." *Journal of Economic Literature*, 46(1): 95-144.

Clark, Andrew, and Andrew Oswald. 1996. "Satisfaction and Comparison Income." *Journal of Public Economics*, 61: 359-81.

Congleton, Roger D. .1989. "Efficient Status Seeking: Externalities, and the Evolution of Status Games." *Journal of Economic Behavior and Organization*, 11: 175-90.

Diamond, Peter A. 2008. "Behavioral Economics." MIT Dept. of Economics Working Paper 08-03, (for a special *Journal of Public Economics* forthcoming issue)

DiNardo, John .2007. "Interesting Questions in Freakonomics." *Journal of Economic Literature*, 45(4): 973-1000.

Duesenberry, James. 1949. *Income, Saving, and the Theory of Consumer Behavior*. Cambridge, MA: Harvard University Press.

Easterlin, Richard. 1974. "Does Economic Growth Improve the Human Lot? Some Empirical Evidence." In *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*, ed. Paul David and Melvin Reder. New York: Academic Press.

Easterlin, Richard. 1995. "Will Raising the Incomes of All Increase the Happiness of All?" *Journal of Economic Behavior and Organization*, 27(1): 35-47.

Easterlin, Richard A. 2005. "Feeding the Illusion of Growth and Happiness: A Reply to Hagerty and Veenhoven." *Social Indicators Research*, 74(3): 429-443.

Eckel, Catherine C., and Rick K. Wilson. 2006. "Social Learning in Coordination Games: Does Status Matter?" Working Paper.

Ellingsen, Tore, and Magnus Johannesson. 2007. "Paying Respect." *Journal of Economic Perspectives*, 21(4): 135-49.

Fehr, Ernst, and Klaus M. Schmidt. 2006. "The Economics of Fairness, Reciprocity and Altruism--Experimental Evidence and New Theories." In *Handbook of the Economics of Giving, Altruism and Reciprocity*, ed. Serge-Christophe Kolm and Jean Mercier-Ythier, 615-91. Amsterdam: Elsevier.

Ferrer-i-Carbonell, Ada. .2005. "Income and Well-being: An Empirical Analysis of the Comparison Income Effect." *Journal of Public Economics*, 89: 997-1019.

Fershtman, Chaim, Hans K. Hvide, and Yoram Weiss. 2003. "Cultural Diversity, Status Concerns, and the Organization of Work." Working Paper.

Fershtman, Chaim, Kevin M. Murphy, and Yoram Weiss. 1996. "Social Status, Education, and Growth." *Journal of Political Economy*, 104(1): 108-32.

Fershtman, Chaim, and Yoram Weiss. 1993. "Social Status, Culture, and Economic Performance." *Economic Journal*, 103: 946-59.

Fershtman, Chaim and Yoram Weiss. 1998. "Social Rewards, Externalities, and Stable Preferences." *Journal of Public Economics*, 70: 53-73.

Frank, Robert H. 1984. "Are Workers Paid Their Marginal Products?" *American Economic Review*, 74: 549-71.

Frank, Robert H. 1985a. "The Demand for Unobservable and Other Nonpositional Goods." *American Economic Review*, 75: 101-16.

Frank, Robert H. 1985b. *Choosing the Right Pond*. New York: Oxford University Press.

Frank, Robert H. 1999. *Luxury Fever*. New York: The Free Press.

Frank, Robert H. 2005. "Does Absolute Income Matter?" in P. L. Porta and L. Bruni, eds., *Economics and Happiness*, Oxford University Press.

Frank, Robert H. 2007. *Falling Behind: How Rising Inequality Harms the Middle Class*. Berkeley, CA: University of California Press.

Frank, Robert H. 2008. "Should Public Policy Respond to Positional Externalities?" *Journal of Public Economics*, 92(8-9): 1777-86.

Frey, Bruno S., and Susanne Neckermann. 2008. "Awards: A View from Psychological Economics." Institute for Empirical Research in Economics, University of Zurich, Working Paper No. 2008-2.

Frijters, Paul, John P. Haisken-DeNew, and Michael A. Shields. 2004. "Investigating the Patterns and Determinants of Life Satisfaction in Germany following Reunification." *Journal of Human Resources*, 39(3): 649-74.

Glaeser, Edward L., David I. Laibson, José A. Scheinkman, and Christine L. Soutter 2000. "Measuring Trust." *Quarterly Journal of Economics*, 115(3): 811-46.

Greenberg, Jerald and Ornstein, S. 1983. "High Status Job Title as Compensation for

Underpayment: A Test of Equity Theory.” *Journal of Applied Psychology*, 68: 285-97.

Haley, K. J., and D.M.T. Fessler. 2005. “Nobody’s watching? Subtle Cues Affect Generosity in an Anonymous Economic Game.” *Evolution and Human Behavior*, 26(3): 245-56.

Heffetz, Ori. 2007. “Conspicuous Consumption and Expenditure Visibility: Measurement and Application.” Cornell University mimeo.

Hirsch, Fred. 1976. *Social Limits to Growth*. Cambridge, MA: Harvard University Press.

Hirschman, Albert O. 1973. “An Alternative Explanation of Contemporary Harriedness.” *Quarterly Journal of Economics*, 87(4): 634-37.

Hoffman, Elizabeth, and Matthew L. Spitzer. 1985. “Entitlements, Rights and Fairness: Some Experimental Evidence of Subjects’ Concepts of Distributive Justice.” *Journal of Legal Studies*, 14(2): 259-98.

Huberman, Bernardo A., Christoph H. Loch, and Ayse Önçüler. 2004. “Status As a Valued Resource.” *Social Psychology Quarterly*, 67(1): 103-114.

Ireland, Norman. 1994. “On Limiting the Market for Status Signals.” *Journal of Public Economics*, 53: 91-110.

Ireland, Norman. 1998. “Status Seeking, Income Taxation, and Efficiency.” *Journal of Public Economics*, 70: 99-113.

Kahneman, Daniel, Ed Diener, and Norbert Schwartz, ed. 1999. *Well-being: Foundations of Hedonic Psychology*. New York, Russell Sage.

Kahneman, Daniel, and Alan B. Krueger. 2006. “Developments in the Measurement of Subjective Well-Being.” *Journal of Economic Perspectives*, 20(1): 3-24.

Kahneman, Daniel, Alan B. Krueger, David Schkade, Norbert Schwartz, and Arthur B. Stone. 2006. “Would You Be Happier If You Were Richer? A Focusing Illusion.” *Science*, 312: 1908-1910.

Kumru, Cagri S., and Lise Vesterlund. 2008. “The Effects of Status on Voluntary Contribution.” Working Paper.

Kurzban, Robert, Peter DeScioli, and Erin O’Brien .2007. “Audience Effects on Moralistic Punishment.” *Evolution and Human Behavior*, 28(2): 75-84.

Landers, Renee, James Rebitzer, and Lowell Taylor. 1996. “Rat Race Redux: Adverse Selection in the Determination of Work Hours in Law Firms.” *American Economic Review*, 86: 329-48.

- Layard, Richard. 2005. *Happiness: Lessons from a New Science*. London: Penguin.
- Lerner, Martin J. 1970. "The Desire for Justice and Reactions to Victims." In *Altruism and Helping Behavior*, J. Macauley and L. Berkowitz, ed. New York: Academic Press.
- Loch, Christoph, Michael Yaziji, and Christian Langen. 2001. "The Fight for the Alpha Position: Channeling Status Competition in Organizations." *European Management Journal*, 19(1): 16-25.
- Luttmer, Erzo F. P. 2005. "Neighbors as Negatives: Relative Earnings and Well-being." *Quarterly Journal of Economics*, 120: 963-1002.
- Marx, Karl .1849. *Wage-Labour and Capital*.
- Neumark, David, and Andrew Postlewaite. 1998. "Relative Income Concerns and the Rise in Married Women's Employment." *Journal of Public Economics*, 70: 157-83.
- Ng, Yew Kwang. 1987. "Diamonds Are a Government's Best Friend: Burden-Free Taxes on Goods Valued for Their Values." *American Economic Review*, 77(1): 186-91.
- Ng, Yew Kwang and Wang, Jianguo. 1993. "Relative Income, Aspiration, Environmental Quality, Individual and Political Myopia: Why May the Rat-Race for Material Growth be Welfare-Reducing?" *Mathematical Social Sciences*, 26: 3-23.
- Rablen, Matthew D., and Andrew J. Oswald. 2008. "Mortality and Immortality: The Nobel Prize as an Experiment into the Effect of Status upon Longevity." *Journal of Health Economics*, forthcoming.
- Rege, Mari and Kjetil Telle. 2004. "The Impact of Social Approval and Framing on Cooperation in Public Good Situations." *Journal of Public Economics*, 88: 1625-44.
- Ridgeway, Cecilia L., and Henri A. Walker. 1995. "Status Structures." In *Sociological Perspectives on Social Psychology*, K. Cook, G. fine, and J. House, ed. Upper Saddle River, NJ: Pearson Education.
- Robson, Arthur. 1992. "Status, the Distribution of Wealth, Private and Social Attitudes to Risk." *Econometrica*, 60: 837-57.
- Robson, Arthur. 2001. "The Biological Basis of Economic Behavior, *Journal of Economic Literature*, 39: 11-33.
- Robson, Arthur, and Larry Samuelson (this volume). "The Evolutionary Foundations of Preferences."
- Scitovsky, Tibor. 1976. *The Joyless Economy*. London: Oxford University Press.

- Sen, Amartya. 1999. *Development as Freedom*. New York: Alfred A. Knopf, Inc.
- Smith, Adam. 1776. *The Wealth of Nations*. Reprint 1937, New York: Random House.
- Solnick, Sarah J., and David Hemenway .1998. "Is More Always Better?: A Survey on Positional Concerns." *Journal of Economic Behavior and Organization*, 37(3): 373-83.
- Solnick, Sarah J. and David Hemenway .2005. "Are Positional Concerns Stronger in Some Domains than in Others?" *American Economic Review, Papers and Proceedings*, 95: 147-51.
- Stark, Oded and J. Edward Taylor. 1991. "Migration Incentives, Migration Types: The Role of Relative Deprivation." *The Economic Journal*, 101: 1163-78.
- Stevenson, Betsey and Wolfers, Justin. 2008. "Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox." Working Paper.
- Veblen, Thorstein. 1899. *The Theory of the Leisure Class*. Reprint 1965, MacMillan: New York.
- Veenhoven, Ruut. 1993. *Happiness in Nations*. Rotterdam: Erasmus University.
- Weiss, Yoram, and Chaim Fershtman. 1998. "Social Status and Economic Performance: A Survey." *European Economic Review*, 42: 801-20.
- Zink, Caroline F., Yunxia Tong, Qiang Chen, Danielle S. Bassett, Jason L. Stein, and Andreas Meyer-Lindenberg. 2008. "Know Your Place: Neural Processing of Social Hierarchy in Humans." *Neuron*, 58: 273-83.