Status and the Argument
for Greater Public Investment

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1. Introduction

The recent revival of Veblen’s arguments about conspicuous consumption, status, and income includes theoretical contributions like those of Bagwell and Bernheim (1996) and Becker, Murphy and Werning (2000) and empirically oriented attempts to test for the existence of upward sloping demand curves like Basman et al. (1988). The essence of the Veblen position, accepted by the vast majority of recent economics literature involves two propositions: (1) Status is positively related to income or at least others’ perceptions of one’s income. (2) The pursuit of status creates social waste because it is a zero sum game: one person’s gain in status is another person’s loss.

The acceptance of these propositions has lead to a flowering of policy analyses that imply that the private sector or private income as usually measured is too big. So Frank (1999) reasons that people will spend too much time pursuing material goods at the expense of family relationships, friendships, vacations and improved health and also will consume too much out of any given income. He recommends increased and highly progressive taxes on consumption. Ecological economists like Jaeger (1995) argue that “the economic calculus” is “biased against non-positional goods such as environmental resources” and Mainwaring (2001) explicitly rejects the use of cost-benefit analysis for environmental policies because it depends on an “arbitrary frame of reference “that does not recognize the harms that more private income creates for others. Not going quite so far, Frank and Sunstein (2001)argue that the statistical values of lives used to evaluate government health and safety programs are biased downward. Based on hedonic wage equations they do not reflect the idea that one reason people take risky jobs is for positional gains. People might take pay cuts twice as large if all faced less risk as would occur with mandated government programs.

There have been at least some counterarguments to the proposition that private income creation, if motivated by concerns about relative income and status, is a zero sum game. Congleton (1989) drawing on Hayek’s insights (1973) reasons that “Many status games involve activities which provide benefits for individuals not directly involved” and that group selection would favor beneficial status games. Lee (2006) also addresses the idea that pursuit of private income even if motivated by desire for esteem might generate benefits for others. These could include a world with less infant mortality, longer adult life expectancies, better educational systems, less time spent attempting to dominate others and the like. This is true even if few understand the sources of their improved lifestyles because they are so indirect. Becker and Murphy (2005, p.284) in their attempt to explain the parameters of actual societal income distributions note, in passing, that they believe “that inequality of status may have evolved in
all societies to generate behavior by individuals striving for status that indirectly helps others”. Knieser and Viscusi (2003) question whether the pursuit of health, safety and leisure are less positional as does Besharov (2001). The latter also emphasizes that people quite often choose relatively low ranked positions with higher real payoffs.

The thesis of this paper is that the proponents of the wasteful effects of status are wrong. Their analysis of status is incomplete because they fail to examine the reasons for status rules. Congleton-Hayek makes clear that inadequacy and recently Jaeger (2004) has begun to wonder if there is “virtue in vanity” and whether status rules may help correct for beneficial externalities generated by status recipients. But the literature begs for a demonstration that positive sum status games are consistent with the individual selection that most biologists believe dominates group selection. Our paper provides such a demonstration. We show that in an important case the desire for status clearly improves resource allocation, and in other cases status might very well have the same effect. Without status, standard cost-benefit analysis understates the benefits of private income relative to public investment, and that the market for status only partially corrects for the resulting misallocation of resources.

To acquire status requires others to acknowledge such status. The most obvious reason for such acknowledgment is that there is a payoff from such deference. It might allow one to enter a relationship whose return exceeds the deference costs. While social rules granting status might imply costs to those who do not provide the required deference a person can still eliminate most of the deference costs by avoiding any relationship that demands such deference. Even when status is determined by a social rule, it must pay an individual to enter into a relationship that requires deference on his part. Sometimes, however, avoiding the relationship can be costly itself. A private might have to go out of his way to avoid saluting an officer. To analyze the impact of status in this latter case, which could somewhat inaccurately be called “involuntary association”, requires one to analyze the determinants of social rules.

Most of the attention of this article is devoted to the case of voluntary association, but later we briefly examine “involuntary association” as well. We believe the voluntary association case to be extremely important. Marriage and friendship belong in that category and business will often involve a mix of voluntary and involuntary associations. It makes sense to us that the status effects are strongest for associations that one has chosen to enter rather than one’s status in comparison to people with whom one never associates.

We focus on the behavior of self-interested individuals who both seek and give status predominantly, but not necessarily exclusively, for the material advantages that they can thereby receive. In this sense our specification
is similar to that of Cole et al. (1995) and Bagwell and Bernheim (1996). Unlike them we recognize that when status is accorded in a voluntary relationship the person receiving it produces something of value for those giving it. Status helps determine with whom one associates and what one can get out of that association.

Consider the most intimate of associations, marriage as an example of voluntary personal associations. Because one will be richer if one does so, it pays to acquire a rich mate, ceteris paribus. There are two consequences. (1) Mate seekers and their families try to ingratiate themselves with potential mates who are richer in the relevant sense. (2) Potential mates have an added incentive to become richer in that sense because they can thereby get better mates. The reason for the qualifier “relevant sense” to richness is that it is not richness per se which is crucial. Rather, it is the expected return to the mate from that richness.

There are two possible financial sources of such returns: (1) joint consumption and (2) contributions to one’s consumption out of a mate’s income. Joint consumption is particularly important in marriage: one’s children, most features of one’s house, entertainment at home, meals, and so forth. Our analysis requires the existence of joint consumption or, alternatively, some altruism between mates. To keep the analysis simple we will postpone discussing the potential second source of financial returns from marriage until section 7. Both mates make contributions to a marriage which are a function of their individual characteristics. Again, for simplicity, we assume that these characteristics are innate or at least not developed for purposes of attracting a mate.

In addition to these real returns from one’s mate, it is conceivable that there is a purely psychological status return within the relationship. We are somewhat skeptical about whether such a status return exists. But the literature generally accepts the existence of such returns, so it is important to determine the implications of such returns.

If one contributed more to the relationship in terms of both income and characteristics than the partner, one could demand a certain deference that could be pleasurable to the recipient and painful to the giver. But it must be emphasized how narrow is the source of this return. For example, we are not talking about a spouse providing more household services because he provides less monetary income. All real returns from the spouse’s activities are appropriately classed as other goods that the spouse provides. The more of these services the giver provides the less the purely psychological status return received by the partner obtaining such returns. This purely psychological status return, if it exists, stems from the power to call the tune in a relationship, not from the tune that is in fact called or from its quality.
The exact impact of purely psychological status returns on behavior depends upon the functional form of that relationship and nobody else knows this form. We know only that, if it exists, one’s status within a relationship is an increasing function of one’s own contributions within the relationship and a decreasing function of one’s partner’s contributions. A simple assumption is that this purely psychological status return depends only on the difference between the contributions of the two mates including contributions to joint consumption and the difference between the characteristics of each. But this would mean that as the average value of the relationship grows, status returns would increase. It is conceivable that a smaller difference in a low value relationship could generate as much deference. A somewhat more complicated variant is that purely psychological status depends on the ratios of the contributions of the two mates. We try both assumptions to increase confidence that our results are not just a function of the simplifications we make.

Perhaps a better assumption is that this status return stems from the kinds of options that each mate has. A mate is more likely to receive deference the better his or her options compared to the present relationship, and weaker the mate’s options. The simplest expression of this idea is that purely psychological status for a person is a function of the difference between two components. (1) The expected real returns if he acquired a new mate minus the real returns from his present mate. (2) The same term for the present mate. Again, it is possible that ratios are more appropriate than differences. Since the use of ratios would unduly complicate the analysis, we rely on the simple insight revealed in comparing differences and ratios in the simpler case.

Especially in contemporary society, there is a serious information problem connected with even the choice of mates. The choice is sufficiently important that one is willing to invest considerably in information. However, the information about characteristics often requires considerable time to acquire, so that one’s sample size is usually of only moderate size. Initially, we assume perfect information, but relax that assumption later.

There is also a problem with the enforcement of contracts in many personal relationships including marriage. The agreed contributions to joint consumption can be different than one’s actual contributions. Initially, we will assume a binding contract for all contributions to joint income, but later relax that assumption.

The existence of a purely psychological status return creates a conflict in one’s search for a mate. One wants the mate to make a large real contribution to the relationship, but the bigger that contribution the smaller one’s status return within the relationship. We assume that the first consideration is much more important than the purely psychological status effect. If status effects were more important, people would seek spouses who made less
contributions to joint consumption and had the least desirable characteristics. If status effects were equally important
to the returns from joint consumption, people would be indifferent to the income level of their potential spouses
except for efficiency considerations. Certainly, in marriage neither is the case, if all of literature is to be believed.
The search for a rich husband is a proverbial theme in novels and the ability of the rich to obtain more attractive
spouses is part of folk wisdom. The rich do not dissipate all of their riches in psychological status returns. They
also use those riches to improve their selection of mates (and friends or associates).

2. Perfect Information, Binding Contracts: Model (1)

Consider a male choosing between his contributions to joint consumption ($J_m$) with his spouse and his own
consumption ($O_m$). (With a change in subscripts this is the same problem for female choice.) This choice not only
affects his consumption patterns but his ability to attract a higher quality mate. We assume the male maximizes the
following utility function:

$$U_m = U_m(J, O_m, C_f; D_m) \quad (1)$$

where $J = J_m + J_f$, $C =$ innate characteristics of a person’s spouse and the $f$ subscript is for females. $D_m$ is the
dereference or status benefits received by the male.

$$D_m = s(J_m, C_m, J_f, C_f) \quad (2)$$

with $\partial D_m/\partial J_m, \partial D_m/\partial J_f > 0$. There are three decision variables for the male: $J_m, J_f, \text{ and } C_f$.

The male is faced with two constraints: the budget constraint:

$$Y_m = J_m + O_m \quad (3)$$

where $Y_m =$ male income, and the mate selection constraint:

$$J_m = h(J_f, C_f) \quad (4).$$

The latter just asserts that the combinations of the contributions to joint consumption of the female and her
characteristics that the male, whose characteristics are assumed given, can obtain are a function of his own
contributions to joint consumption.

Taking advantage of the fact that $\partial U_m/\partial J_m = \partial U_m/\partial J_f = \partial U_m/\partial J_f$, the key first order maximization condition
thus generated is:

$$\partial U_m/\partial O_m = \partial U_m/\partial J_m (1+h')/h' + (h's_1'+s_2')/h' \quad (5)$$
where \( s_1' = \frac{\partial U_m}{\partial D_m} \frac{\partial D_m}{\partial J_m}, \) \( s_2' = \frac{\partial U_m}{\partial D_m} \frac{\partial D_m}{\partial J_f}, \) \( h' = \frac{\partial J_m}{\partial J_f}. \) By our previous discussion of the relative importance of the direct and status returns to joint consumption, both \( s_1' \) and \( s_2' \) are in absolute terms less than \( \frac{\partial U_m}{\partial J_m}. \)

If we assume that the male’s status in the relationship is a function of \( J_m - J_f \) and other terms unrelated to either, then \( s_2' = -s_1' \) and equation (5) becomes

\[
\frac{\partial U_m}{\partial O_m} = \frac{\partial U_m}{\partial J_m} \frac{1 + h'}{h'} + s_1'(h' - 1)/h' \quad (5a)
\]

Alternatively, if the male’s status is a function of \( J_m/J_f, \) then equation (5) becomes

\[
\frac{\partial U_m}{\partial O_m} = \frac{\partial U_m}{\partial J_m} \frac{h' + 1}{h'} + s_1'(h' - J_m/J_f) \quad (5b).
\]

The male adds to joint consumption so long as the marginal benefit exceeds the marginal cost of foregone private consumption. The former includes the utility gained by increased joint consumption (both due to the direct effect and the indirect effect of the increased contributions of the female) and the changed utility from the changed deference (which also has two elements because the female reacts to changed contributions to joint consumption by the male).

The price the male must pay in his contributions to joint consumption to get a dollar’s contribution from the female holding characteristics constant, \( h', \) is determined by the female. The motivation for such contributions is to be selected by a male contributing more to joint consumption. In this decision process \( C_m \) and \( C_f \) are held constant. Assume perfect information, binding contracts, and lots of potential partners with similar characteristics.

Given perfect information, the “lots of potential partners” assumption should almost always be satisfied in all cases where people are not looking for spouses with unique characteristics. The pool of potential partners is exceedingly large for those not living on deserted islands. These assumptions together with the perfect information assumption yields a perfectly competitive marriage market. There is no possibility of strategic games. No partner will refuse an offer equal to the best she could otherwise get in the hopes of raising the ante. If she did, the other party would simply have his offer accepted by a willing virtual duplicate.

The result should be a perfect matching of the nth best male considering both his characteristics and his contracted contribution to joint consumption with the nth best female considering her characteristics and contracted contributions for all \( n, \) assuming for simplicity that all males and females have the same preferences with respect to characteristics and joint consumption. But \( h' \) holds constant characteristics at the level that a particular male and female chooses. Suppose the nth best male increases his contracted \( J_m \) by \( dJ_m. \) He can now match with a female
with the same characteristics as previously but with a higher \( J_f \) by \( dJ_f \). But by the same token that female would be able to match with a male with the same characteristics as the male who previously offered \( J_m \) but who would be compelled to offer now an additional \( dJ_m \). In consequence, \( h' \) from the point of view of the male, \( \partial J_m / \partial J_f \), is the inverse of the relevant \( h' \) for the marriage decision of the female, \( \partial J_f / \partial J_m \). If males and females had the same utility function and the same budget constraints the two partial derivatives would be equal. \( h' \), therefore, would, be 1 under those circumstances.

Nothing relevant can be said about differences in male and female utility functions. However, there is a greater variance in male income than female income\(^2\). Assuming the same utility functions of males and females, this greater variance should also produce a greater variance in \( J_m \) for males than \( J_f \) for females because we expect \( J \) to be a normal good. Under those circumstances a perfect matching of the \( J \)'s implies that \( h' \) – how much the male has to pay in \( J_m \) to get a dollar of \( J_f \) – will be greater than one. To get another dollar of \( J_f \) from females, therefore, requires males to offer more than a dollar of \( J_m \). Similarly, for females \( h' \) will be less than one. However, we just focus on the average case by assuming in this perfect information, binding contract world an \( h' = 1 \).

To determine whether people purchase too much of the good that creates status – \( J_m \) – we compare alternatively equation (5a) and equation (5b) with similar optimizing equations that would be generated without status considerations, but where partners realize that there is a real return from own \( J \) which is a bigger partner’s \( J \).

The optimization condition comparable to (5) is

\[
\frac{\partial U_m}{\partial O_m} = \frac{\partial U_m}{\partial J_m} \quad (6)
\]

Next consider the case where such a male considers the return generated from \( J_m \) in getting a partner with better characteristics, but not the status return. The optimization condition becomes

\[
\frac{\partial U_m}{\partial O_m} = (1 + 1/h') \frac{\partial U_m}{\partial J_m} \quad (6)
\]

If \( h' = 1 \) equation (6) becomes

\[
\frac{\partial U_m}{\partial O_m} = 2 \frac{\partial U_m}{\partial J_m} \quad (7)
\]

But in the case of own consumption vs. joint consumption in a marriage, equation (7) generates asocially optimal allocation of resources as long as males and females have the same marginal utility with respect to joint consumption. If \( h' > 1 \) (or \( < 1 \)) then it leads to a less (more) than socially efficient level of \( J_m \).

Return to the case of males considering both real and purely psychological status returns in their resource allocation decision. Combine equation (5a) with the optimality condition of equation (8) and define \( x \) by
\[ s_i' = x \frac{\partial U_m}{\partial J_m} \quad (8) \]

or the fraction from increased \( J_m \) due to status returns.

Given, as we have seen, that psychological status returns must be less than real returns, but are assumed positive \( 0 < x < 1 \). \( J_m \) will be excessive, efficient, or deficient respectively if

\[ x(h'-1) \geq < (h'-1) \quad (9) \]

When \( h'=1 \) there will be an optimal allocation of resources. With males and their \( h' > 1 \) we would expect too little of the status good to be chosen by them with just the opposite results for females. In this case, as we shall see, we would not expect a general over-consumption of status goods, and this is the case most favorable to that standard conclusion.

Essentially, this concern with others’ responses to one’s own behavior forces individuals to consider indirectly the utility of these others in their decisions. It is the effort to get the highest quality mate that makes her partner take her interests into account in his consumption allocation decision. In the case where \( h'=1 \) purely psychological status has no effect on this decision. On the one hand, the status motivation would increase the incentive to consume more of the status good. On the other hand, the value of getting a high quality mate through greater consumption of the status good is reduced because that in itself reduces purely psychological status. When \( h'=1 \) these forces cancel out.

How are these results changed when status is a function of the ratio of male and female contributions to joint consumption rather than the difference in those terms? Assume \( J_m/J_f \) to be greater than 1. Comparing equations (5a) and (5b), the ratio specification increases consumption of the status good relative to other goods. But the opposite results would hold for females where the relevant ratio is \( J_f/J_m \). The median bias from using the difference assumption when the ratio assumption is more appropriate would be zero.

Another way that that concern for the mate could affect decisions is through altruism. One would get the same allocation of resources in two quite different cases. (1) If one were perfectly altruistic toward one’s spouse and did not consider their reaction to one’s behavior or (2) if one were simply self-interested and did consider their reaction and \( h'=1 \). While this second case generates optimal allocation of resources, the first case does not. While altruism changes the nature of the allocation decision, it also changes optimality conditions. Altruism increases the utility return to joint consumption. Not only does one’s spouse benefit from her part in joint consumption but one gets a benefit from her benefiting in addition to one’s own direct benefit. In fact, our analysis is completely
unaffected by whether altruism operates or it does not. It makes no difference to a discussion of optimality whether \( \partial U_m / \partial J_m \) has an altruistic component in it or not. We will focus on self-interested behavior because perfect altruism within a relationship seems a strange assumption if one argues for the importance of zero-sum status within the same relationship.

3. Perfect Information, Binding Contracts: Model (2)

Now, let us look at our alternate assumption about the determinants of purely psychological status within a relationship, that purely psychological status for a male (\( D_m \)) is a function of the difference between two terms: (1) a potential partner’s contribution to the relationship minus the contributions of the actual partner. (2) the same term from the female’s point of view.

\[
D_m = s(C_{fp}, J_{fp}, C_f, J_f, C_{mp}, J_{mp}, C_m, J_m) 
\] (10)

where the subscript p refers to a potential mate and

\[
\partial D_m / \partial J_{fp} = \partial D_m / \partial J_m = - \partial D_m / \partial J_f = - \partial D_m / \partial J_{mp} > 0
\] (11)

For example, a particular specification of \( D_m \) that satisfies those conditions would be

\[
D_m = [s(J_{fp}, C_{fp}) - s(J_f, C_f)] - [s(J_{mp}, C_{mp}) - s(J_m, C_m)]
\] (12)

The male wants to maximize \( U_m = U_m(J, O_m, C_f, D_m) \). He is subject to four constraints, two as before. \( Y_m = J_m + O_m \), and \( J_m = h(C_f, J_f) \). Then,

\[
\partial U_m / \partial O_m = \partial U_m / \partial J_m (1+h')/h' + s'(h'h_1'-1)/h'h_1'
\] (14)

where \( s' = \partial U_m / \partial D_m \), \( \partial D_m / \partial J_m \), \( h' = \partial J_f / \partial J_m = \partial J_{fp} / \partial J_m \), and \( h_1' = \partial J_{mp} / \partial J_f \). In our full information, binding contract case \( h_1' = h^{-1} \). With perfect matching and holding characteristics constant, the highest \( J_m \) matches with the highest \( J_f \). Whatever the price in terms of \( J_m \) of getting a dollar of \( J_f \) will be the inverse of the price in terms of \( J_f \) of getting a dollar of \( J_m \). In the perfect symmetry case on which we focus both will equal 1. For that case the results from this alternative assumption about purely psychological status are the same as those produced by the simpler assumption. Matching of mates produces an optimal allocation of consumption between joint and own consumption. When, however, we move away from perfect information the two assumptions yield somewhat different results.

4. Imperfect Information and Cheating

Imperfect information about potential mates’ Cs and Js will produce imperfect matching of the Js of mates holding characteristics constant. As a result, an increase in one’s own J will be associated with a smaller increase
in one’s mate’s J on average. The expected value of the Jf that the best male can get is now lower than the Jf associated with the best female because there is now some chance that he will pair with a female who is not the best. Similarly, the worst male can now expect to get a higher Jf than that associated with the worst female because there is a chance that he will do better. The same can be said for female choice. In consequence, over the entire range of the Js the average return in one mate’s expected J with an increase in one’s own J must be less than if there were perfect matching. If the distribution of J’s were perfectly symmetric, this result would also hold in any part of the range. Any person who ranks better (lower) than the median rank expects to match with a person who ranks lower (better) than he, and this discrepancy increases the higher (lower) the person’s rank. There is regression toward the mean. That means that both h’ and h1’, prices of a mate’s J in terms of one’s own J will be increased by greater information. In the symmetric case both h’ and h1’ will be greater than 1.

The same effect is produced by non-binding contracts. In contrast to the imperfect information case, however, non-binding contracts create analytic problems. Once a match has been made and there are costs associated with dissolving the match the assumption of a perfectly competitive marriage market would no longer apply. Bargaining between spouses can occur with all the indeterminacies associated with its analysis. For our purposes, however, these indeterminacies are irrelevant, just as we were not required to engage in a precise analysis of the imperfect information case even though such an analysis is possible. What is clear is that the cheating that occurs as a result of non-binding contracts generates an imperfect match between the actual Js of the two mates. Imperfect matching was the only proposition we used in the imperfect information case. Hence, its results follow from the non-binding contracts case, as well as a combination of the two cases.

The argument of the perfect information, binding contract case that ∂Jm/Jf is the inverse of ∂Jf/Jm does not hold in either the imperfect information or non-binding contract cases. The inverse relationship in the former case is produced by a one to one correspondence between Jf and Jm. Because of uncertainty in both the imperfect information and non-binding contract cases, there is no unique Jf associated with any Jm. Instead there are expected values of the one associated with the other.

For our purposes neither imperfect information nor contract problems require any other changes in our models other than changes in the value of h’. Look, again, at equation (5). Focus on the case h’>1. First, consider what happens as a result of mate selection. The coefficient of ∂Um/∂Jm is less than 2. As discussed earlier, the
appropriate allocation of consumption requires that term to equal 2. Because of convexity, this result implies that less than an optimal amount is spent on $J_m$, the status good.

Then, focus on the purely psychological status effect. With $h'>1$, the second term on the right-hand side of equation (5) is positive. This implies a greater expenditure on the status good, joint consumption. However, in terms of equation (5) at most this positive effect of purely psychological status on expenditures for the status good will just compensate for the under-provision of that good produced by the real returns from status produced by the mate selection process. We have defined $x$ in equation (8) and by definition it is less than one. For any such $x$ people provide less than an optimal amount of the status good. We suspect that $x$ is not only less than one, but that it is quite small if it exists at all as a consistent feature of human behavior. There might very well be personality types that revel in power for its own sake. There are others who find unequal relationships exceedingly uncomfortable, and, perhaps, there are some who prefer to be submissive. As Table 1 shows if $x$ is small and $h'$ large there can be considerable under-provision of the status good. If $x \leq .1$ and $h' = 3$ the individual maximizing $\partial U_m/\partial J$ is 30% or less than its socially optimal value and even if $x$ is <.25 and $h' > 1.5$, 10% less.

Now, look at the $h'>1$ case given our alternate assumption about the determinants of purely psychological status. Equation (13) is the outcome of that case. As before we will concentrate on the symmetric case where $h'=h_{1'}$. The term associated with $\partial U_m/\partial J$ which reflects in part the real return to status is just like that term for our previous model. Again, it shows that with imperfect information or non-binding contracts this real return is insufficient to fully offset the externality associated with joint consumption. In consequence, that return by itself generates an insufficient provision of the status good.

Again, as in equation (5) with $h'>1$, purely psychological status returns operate in the opposite direction, increasing the provision of the status good. Equation (13) differs, however, from equation (5) in one important respect. Here the net increase in status due to increased $J_m$ is bigger because it increases one’s status in the marriage for two reasons. The individual male has more status both because of his contributions relative to the female and relative to her best alternative mate. It is conceivable that the purely psychological return can dominate over the real status returns to create an over-provision of the status good. However, as Table 1 shows such an outcome requires that purely psychological status returns are far larger than we believe they are, that $x>.5$ or more. Furthermore, at the most these cases will generate a relatively modest over-provision of joint consumption. At the most the individual maximizing $\partial U_m/\partial J$ is lower by less than 12.5% than its socially optimal values. As Table 1 shows, for
more reasonable values of \( x \) there is still an under-provision of the status good and that under-provision can be substantial.

We do not know the exact functional form of the determinants of status. We have used highly simplified assumptions. (Others might prefer to call these assumptions ad hoc.) In particular, one might object to the additive form of the status relationship in our second model which does get too complicated when a multiplicative relationship is used. The results, however, from the multiplicative form in the first model provide no reason to suspect that a multiplicative relationship would dramatically change results in the second model. At the minimum our results throw into serious question the standard position among economists that the presence of status generates an inferior allocation of resources.

Indeed, our analysis can be criticized from a quite different point of view. “The results are so intuitively plausible that all the mathematics is unnecessary.” In reply, “Woe betide any mathematical analysis in economics that depends on mathematical simplifications that not intuitively plausible.” That plausibility decreases the probability that the results are not just the result of those simplifications. Furthermore, intuition unchecked by mathematics can go awry. Besides, our results, perhaps obvious after they have been demonstrated, were evidently not so obvious to the vast majority of economists that have analyzed status. Indeed, Bagwell and Bernheim (1996) also focus on the marriage market, and arrive at opposite conclusions to ours simply because they ignore the “obvious.”

5. Associations in General

The foregoing has focused on status and the choice of mates. But the models we have developed are applicable to any voluntary choice of associates. Again, there is a real return to associating with wealthier people, though clearly not of the same magnitude as in the choice of spouses, and this real return is not fully eliminated by the rich charging a status or other cost for the rights of lower income others to associate with them as the Becker, Murphy, Werning association model (2000) would have them do. The contributions of the wealthy to joint consumption tend to be greater. The houses in which they entertain are bigger and more pleasant. The food is better. The wealthy are in a position to have more sparkling guests, and guests that are likely to make better mates. The network of which the rich are a part is also likely to contain richer prospective clients and information about jobs that pay more. Literature, again, provides evidence that people find it more desirable to associate with those richer than themselves than those poorer in spite of whatever they have to pay for the privilege. Casual observation
also suggests that there is a positive relationship between clubs’ restrictions on the income of their members and the
income level of those members. We know of no club that says, “the rich need not apply,” while there are many that
go out of their way to restrict their membership to the rich even beyond imposing high dues.

The results of equations (5) and (13) hold, then, without modification to choice of associates in general. In
this case as in marriage, there will be a tendency to under-provide joint consumption because its externality is not
fully realized in the status motivations for that provision. Also, it is at least conceivable that x could be close enough
to one in very superficial relations so as to lead to overprovision. But our analysis implies that then overprovision
would be slight.

6. Gifts

Instead of contributing to joint consumption one of the spouses or associates could buy status by
contributing to the own consumption of the other. (Both will not engage in that activity to buy status. Gift
exchange is an inefficient way of purchasing status.) In contrast to contributions to joint consumption, gifts require
a status return equal to the utility cost of one’s own foregone consumption. Status purchase through gifts may or
may not exist in a world where such purchases through contributions to joint consumption are common. Such gifts
require that the marginal utility of own consumption or the status costs differ between the two spouses. In that case
those gifts will improve resource allocation as they move consumption toward the person with the higher marginal
utility relative to status costs. Just as in the joint consumption case, the purchase of status through gifts makes the
world better, not worse.

7. External Costs for those Outside the Relationship

Our analysis has focused on the consequences of association to the associates. But there are consequences
of the association that extend beyond the associates themselves. There would appear to be another status game. In
the case of marriage, for example, if rich males acquire better wives, there are less available for the less rich males.
These latter males are clearly made worse off by the mate selection of the rich. However, more attractive women
are made better off by the existence of rich males. There are now less of them competing for the attention of other
males. This case is just another example of the externalities associated with any demand-supply problem. Fellow
demanders are made worse off by the entry of another demander, but suppliers are made better off. There is no net
loss in real income in this process. The same holds true for any association, though in this case demanders and
suppliers tend to be the same person. The rich pick off the best associates, making them less available to others, but
at the same time these best associates no longer compete as intensely for other potential associates. There does not appear to be a net external loss from association choices.

8. A Constrained Status Market

Thus far our analysis has concentrated on individuals according status to others because those others are in a position to help the status givers. There is another reason to bow and scrape: social rules say, “bow and scrape.” In that case the motivations for the costly deference is the motivations for following any social rule that is enforced by means other than government sanctions. (1) One’s reputation to others is increased by doing what one is expected to do. (2) The social rules are internalized in the form of a conscience that makes one do the expected. (For a detailed examination of this behavior see Nelson and Greene (2003)).

This is the behavior that accords most closely with the ideas of the standard status literature. But even in this case status givers sometimes have a choice. They participate in determining with whom they associate. If they prefer to associate with people of higher status than themselves rather than people of lower status, then there have to be advantages to associating with higher status people that more than compensate for the obsequiousness required for those associations. The returns to joint consumption must outweigh the status cost. Not much is changed in this case from the case examined earlier, where the individual was free to choose how obsequious he was willing to be.

But some associations are only avoidable at extremely high costs. One must casually associate with people of varying status on the job or on the street. In this case it is quite possible that there is a net cost to a person generated by an increase in the status of casual associates. Furthermore, it is possible that just knowing that there are higher status types is sufficient to lower the utility of those with that knowledge.

We expect one’s status within relationships to have greater utility consequences the more intense the relationship, so that status within marriages or friendship groups is likely to be more important to the individual than his status relative to comparative strangers. In that case the implications of the status consequences of voluntary status giving are likely to be more important than the effects of involuntary status giving. Still and all these latter effects are worth exploring.

The analysis thus far is clearly inappropriate for any case that is a combination of involuntary status giving and involuntary associations. Low status people might very well be worse off in such forced associations with high status people. There would be a negative externality from the acquisition of status as emphasized in the standard literature. However, social rules including those with respect to status are not totally arbitrary. Social rules defining
status have been around for a long time (Ridley, 1997), long enough that survival pressures could help determine the nature of those rules. Indeed, this has been the primary argument of the defenders of status rules such as von Hayek (1973), Congleton (1989) and Becker and Murphy (2000). The first two, however, do not specify the process generating a relationship between status and group survival. Becker and Murphy’s specification seems somewhat arbitrary and is incomplete.³

Most biologists and anthropologists agree that the only period in man’s history sufficiently long for survival to have a major impact on social rules was the hunter-gatherer stage. During that period there was some food-sharing particularly of big game. It is obvious why big game is shared. It is too much for a single family to eat before it spoils. The hunting may also require large-scale cooperation, but the sharing usually goes beyond the cooperating group. What is less obvious is why any male would bother to hunt for big game rather than hunt for smaller game, when his expected meat consumption, as opposed to meat production, is greater in the latter case (Ridley, 1997).

Higher status for big-game hunters can provide the necessary motivation. But if all higher status provided were an increase in utility to its possessors, higher status would be insufficient to convert small-game hunters to big game hunters. The higher status must contribute to individual survival as well. Most biologists believe that individual survival trumps group survival. Social rules must be consistent with the individual survival of those who follow those rules in order for those rules to survive. (For details see Nelson and Greene (2003)). One way for a society to enforce its rule is by sexual selection. In this case the big-game hunters get more and better sexual partners (Ridley, 1997).

This could very well be a straightforward case of sexual selection where each partner is directly better off in terms of survival as a result of the pairing. At least among the Ache, a hunter-gatherer people in South America, the children that are the product of sex with big game hunters have a better chance of surviving either because their genes are better or because they get special treatment (Wright, 1994).

Alternatively, a more subtle kind of sexual selection emphasized by Fisher (1915) in a more general context would be required. The mate of the big game hunter might have had even more surviving children in another partnership given her superior genes. But suppose females in general prefer big game hunters. Then, the male children of big game hunters are more likely to successfully mate as long as they are more likely to be big game hunters themselves through either training advantages or inherited roles. Sexual selection can convert somewhat
non-survivable characteristics on the individual level into survivable characteristics as long as group survival is enhanced thereby.\(^4\)

We would expect the combination of sexual selection and any direct psychological status return to cause individuals to engage in just the right amount of status producing activity as far as group survival is concerned for hunter-gatherers. But the social and physical environment is quite different now than for hunter-gatherers. We cannot be sure that the modern equivalent of successful big game hunters – the rich – provide the right amount of externalities to the group to compensate for the negative externalities of status. On the one hand, voluntary charitable contributions are probably less now relative to income. There are currently many more options open to the rich than eating all they can immediately. But government currently generates a substantial amount of involuntary contributions – net taxes – which are positively related to income. Furthermore, the greater current role of capital in the production process generates a greater external return to capital accumulation given the usual assumptions about linear homogeneous production functions with complementarity between capital and labor. Even in this case of involuntary status giving, it is unclear whether status produces a net external benefit or external cost.

There is evidence that there has been a positive external return to greater private money income even including the impact of status on that return. According higher status to those with higher private incomes is not the only way in which society can encourage those higher incomes. It can encourage the behavior that generates higher incomes directly. Society can exhort people to work harder, and it does. Buchanan (1991) notes how prevailing social norms promote the work ethic and offers an explanation based on more work leading to an extended market, more specialization and higher productivity for all. Suppose Frank (1998) were correct that we consumed too little leisure – a joint hypothesis that there are negative externalities from higher income because of status, and that because of conspicuous consumption higher money incomes are better signals of higher income than is leisure. We would expect society to exhort people to loaf. It does not. The Protestant Ethic is not confined to a single time or single religion, though its importance in social rules does seem to so vary. Social policy might very well encourage loafing as an indirect consequence of egalitarian motives, but those indirect consequences are almost universally decried.

An alternative hypothesis of sorts is that man naturally accords status to those who accomplish what we would like to accomplish, period. This, however, does not explain why society exhorts people to acquire status. Nor does it explain why such a status rule contributed to the survival of individuals who possessed such a rule. At
least at some time in our history the social returns from such activity must have been greater than the external costs generated by the status game.

8. Public Investment

Advocates of greater expenditures on public investment frequently use status arguments to bolster their case. An explicit example of this is Jaeger’s argument (1996, p.53) that positional goods will lead market interest rates to overstate the social discount rate and that as a result “the level and composition of social capital left for future generations will be misguided” toward deficient overall levels, but especially deficient public investment. Frank and Sunstein (2001) argue we under-invest in public programs to increase health and safety. Private income is a status good. Because of the negative externalities associated therewith, people choose too much of it relative to public investments.

Apart from the analysis of this paper, this is a specious argument as long as voters are aware of the supposed negative externalities of private income. Voters take externalities into account in their voting and there is no reason for voters to underweight external effects within the same voting jurisdiction.

There is, however, another argument which does appropriately flow from the standard belief in the negative externalities associated with income as a status good. The usual cost-benefit approach to public investment treats the costs as private income foregone without any adjustment for any externality associated with that income. If there were negative externalities associated with private income, then these costs would be inflated.

Of course, our analysis turns that argument around. Status considerations do not fully correct for the positive externalities associated with joint consumption in the case of voluntary associations and it is unclear whether they over or under correct for externalities in the case of involuntary status giving. Given that people are likely to weight the voluntary association component of status quite heavily, there is a strong suggestion that there are positive externalities associated with greater private income. This means that public investment would be over-provided if one were simply guided by cost-benefit analysis.

In addition, there is another source of positive externalities of private income that has been neglected by the literature. There is a return to being in an area of higher private income even when currently one does not share in that income. There is the prospect that one or one’s children will do so later. One man’s low status is another man’s land of opportunity. 

We are not asserting that a dollar of other’s private income has the same external benefits as a dollar of public investment, but standard cost-benefit analysis measures the external benefits of public investment. It does not measure these external benefits of private income. These latter benefits occur precisely because these dollars are not being used for public investment. It is the expectation that a family member might have higher private income later that creates this externality. All of this strongly suggests that there is not a net external cost of private income. If anything, cost-benefit analysis is biased against private income.

9. Income and Status in Other Guises

In this paper we focus on status arising from free associations. We believe associations to be the most important source of status returns because there are real consequences to all the parties involved. It is conceivable, however, that status can be obtained as a byproduct of income in other contexts. For example, people can look at other people’s houses and gardens and stop on the street to admire these byproducts of higher income. Possibly, one gets a net joy from this admiration of one’s property, though one pays thereby the cost of less privacy. There is a status game involved. If one has a more beautiful house fewer people stop at the less beautiful house to admire it. This is a possible source of negative externalities. However, providing others a beautiful house and garden to admire is a source of positive externalities, as long as people’s joys are a function in part of the quality of the experience as well as the relative quality.

We do not know how one can assess a priori the relative importance of these conflicting externalities. We do know, in fact, that others do enjoy looking at other’s houses and gardens. We do not know that there is any status affect in having other’s look or if it exists that it outweighs the resulting violation of one’s privacy. We do know that some people at some cost make the viewing of their property by others difficult. They both landscape and set their houses back to make the latter less visible. We also know that those who admire the beautiful houses of others do so in spite of the fact that they are thus made more aware that their own houses are relatively modest. If status in this context were sufficiently important they would spend their time viewing neighborhoods less attractive than their own rather than the estates of the rich.

10. Conspicuous Consumption

The modern revival of Veblen’s concerns with income and status has been associated with a revival of another one of his ideas: conspicuous consumption,( for example, Frank (1998)). People use certain visible consumption patterns highly correlated with income to signal to others their incomes. Even if this information is
useful to others and so has some positive social utility, there is a tendency to spend more than the social optimal on signaling goods (Spence, 1973). For example, the same information can be conveyed by socially cheaper signaling by taxing the signaling goods. Individuals will spend the same on the signal and hence convey the same signal.6

Our previous analysis provides an alternative hypothesis for conspicuous consumption. Status goods are those goods which one jointly consumes with others. The joint consumption of most associations will also be highly visible – the entertainment and the setting for the entertainment that a person provides for others as well as themselves.

Therefore there are two problems with the conspicuous consumption hypothesis. (1) Why should people accord status to higher incomes per se unless they get something out of the people with higher incomes? (2) Why should people build lavish houses, say, to signal their incomes when far cheaper ways of conveying the same information are available? Admittedly, more expensive goods tend to be better signals because they impose greater costs on a lower income person to behave as if he had higher income, but income information can be conveyed by means other than consumption.

With respect to the first problem, for most associations the income of one’s associate per se is irrelevant to what one gets out of the association. One is not using the entertainment that one’s associate provides as a basis of estimating his income. It is the entertainment itself and the prospects of future entertainment that are relevant. Present entertainment provides a better estimate of future entertainment than the income of the entertainer. There is one important exception: marriage. Income and assets probably provide a better estimate of a male’s contributions to joint consumption than do courtship expenditures. But the second problem with conspicuous consumption is particularly troublesome in the marriage case.

When a person applies for a loan, lenders typically inquire about that person’s income and assets and if the loan is big enough verify them. They usually do not ask questions about life-style, and if they did, lavish spending would not be considered a favorable characteristic. In nineteenth century novels the prospective groom typically asked the would-be bride’s father for her hand. One of the standard questions asked by the father is, “What are your prospects?” The father would look much more favorably on an answer that included substantial savings in contrast to an answer that involved high current consumption. Conspicuous consumption would, indeed, be unfavorable information about the groom’s prospective contributions to the joint consumption of the marriage.
While such interviews between fathers and grooms are no longer typical, the same information is available if desired to prospective brides themselves. Typically, they know the occupation of the would-be groom and how well he is doing in that occupation by either his wages or how his colleagues assess his worth. Sometimes they know considerably more. One of the author’s daughters revealed that her suitor had “saved up a pretty penny” before he asked for her hand.

In other associations knowledge of a person’s income is probably less extensive. But there is nothing preventing such knowledge, if that knowledge were at all important. Instead of Vanderbilt building a mansion, he could have hung a simple sign about his certified net worth on the front door of a modest bungalow. In fact, did Vanderbilt have a problem of convincing others of this riches that he solved by mansion building? Of course, the certified net worth strategy is not employed. People believe that their net worth is nobody’s business because it really is nobody’s business. It does not seriously affect other’s decisions toward one. The alternative hypothesis about this reluctance is the asymmetric information argument. People with less income than others are reluctant to reveal this lower income because they would, thereby, be embarrassed. But the general argument of Grossman (1981) about asymmetric information is damning against that hypothesis. Those who do not reveal their net worth will be assumed to have net worth equal to the average of those who do not reveal their net worth. In which case everybody but the least wealthy reveals his net worth.

Much of the appeal of the conspicuous consumption hypothesis stems from its confusion with a quite different process: imitation. Many have claimed that imitation is important in human behavior. There is evidence for this phenomenon for political behavior (Berelson et al., 1954) (Nelson, 1994). Imitation seems an essential part of the explanation of variation in dress codes by societies and social groups and teen-age smoking. Imitation can arise from two sources: lack of information and signaling with whom one wishes to be friends. Given one’s own limited information about alternative consumption decisions, one uses the consumption of similar others to predict appropriate consumption. When following others is perceived to be of relatively small costs in part because one does not know better consumption patterns, one can signal desired friends by one’s consumption patterns.

The popular view of “keeping up with the Jones” has often been thought to be a manifestation of conspicuous consumption. However, the phrase is not “getting ahead of the Jones”. Imitation rather than status could explain the behavior popularly discussed. (That behavior in so far as it refers to joint consumption could also be explained by the process we have previously discussed.)
Imitation has quite different implications than conspicuous consumption. One does not systematically over-consume a commodity that is used for imitation. The idea is to consume the average amount that the group consumes rather than the most as one would do in a status game. Imitation induces those who would otherwise consume less than the average to consume more, but it induces bigger than average consumers to consume less. In both conspicuous consumption and imitation a person’s consumption is a function of the consumption of others. Evidence about this feature of consumption is, then, not particularly telling evidence for conspicuous consumption.

11. Conclusion

A veritable academic growth industry in the field of policy analysis has arisen which emphasizes that we spend too much time working and producing market goods and as a result, shades of Galbraith’s Affluent Society, our public sector is starved. The effort to obtain income is viewed therein as a rat race and treadmill. Success in such pursuits is seen as the equivalent to the production of noxious fumes and carcinogenic waste. The negative externalities produced by such pursuits argues this literature must be controlled by higher taxes on income and consumption and more spending on public projects that are non-positional.

Such conclusions require not only the assumption that status and position in the income distribution is important for individual utility, but that the activities that create status are basically zero sum. In reality they are not. People obtain status by providing goods for others. Rockerfellers, Vanderbilts and Gates’ are esteemed because of the research universities, hospitals and public trusts they have created. Gambinos, Gottis, Millkens, Lays and Skillings, while fabulously wealthy by reasonable standards, are held in contempt. In fact as Lee (2006) writes “The general increase in wealth created by those who pursue material gain can be thought of as a positive externality…. Wealthier countries experience less infant mortality, fewer heat related deaths, improved job safety… more opportunity for women and minority groups to name but a few general benefits.” Even if those with higher incomes receive “positional” or “status” benefits, it is theoretically and practically unclear that these overcompensate them for the external benefits they create. This paper presents a simple model that bolsters this conclusion. It also alerts us to the possibility that social norms for according status may be in the individual’s interest from a survivability perspective. And as Adam Smith’s colleague William Robertson put it there may be other benefits from the pursuit of private income that the modern day critics of private wealth generation ignore, for “Commerce tends to wear off those prejudices which maintain distinction and animosit. It softens and polishes the manners of men. It unites them,
by the strongest of all ties, the desire of supplying their mutual wants” (Herman 2001). It diverts interest from rent seeking games.
Table 1
PERCENT DEVIATION MARGINAL UTILITY OF JOINT CONSUMPTION FROM OPTIMAL LEVEL FOR DIFFERENT VALUES OF FUNCTIONS OF STATUS AND INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>MODEL 2</th>
<th>X</th>
<th></th>
<th>MODEL 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>h'</td>
<td>Optimal</td>
<td>.75</td>
<td>.25</td>
<td>.1</td>
</tr>
<tr>
<td></td>
<td>1.1</td>
<td>-4</td>
<td>-2</td>
<td>+2.5</td>
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<tr>
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<td>1.5</td>
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<td>-4</td>
<td>+9.5</td>
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<tr>
<td></td>
<td>2.5</td>
<td>-12</td>
<td>+1.5</td>
<td>+19.5</td>
</tr>
<tr>
<td>X</td>
<td>.75</td>
<td>-11</td>
<td>0</td>
<td>+21.5</td>
</tr>
</tbody>
</table>

X = the ratio of s' to $\partial U_m/\partial J_m$

$h' = \partial J_f/\partial J_m$
1 In Becker’s terms (1974) the income of one’s spouse can be either a substitute or a complement to one’s own income. Choice of spouse dominated by efficiency considerations differs in one important respect from choice governed by the differential between psychological status and real returns. In the former case those choices are consistently realized because both would-be mates have the same incentives for such a pairing. In contrast, all cannot marry spouses richer than themselves even if they wish to do so. The evidence for such a wish cannot come from actual marriages, but rather from efforts made to get more desirable spouses. The nature of these efforts will be different in this case than efforts that respond to the production of efficient marriages.

2 And Jacobsen (1993) reports that in the U.S. 1980 Census that for full time workers the standard deviation of males in hourly earnings was about 1.55 times greater than this standard deviation for females (for whites and non-whites both collectively and separately). The coefficient of variation is approximately the same by gender, but the standard deviation is the relevant term in predicting how much more in joint income one can expect from one’s spouse as a function of a dollar’s increase in one’s own income. In general, there is evidence for greater variance in male characteristics than female generated by the fundamental biological fact of the greater number of offspring produced by males than for females in most of the animal kingdom, for example, Bateman (1948).

3 They assume without any a priori case that status is complementary to consumption in the sense that the marginal utility of each increases with the level of the other. Their evidence is that the two are positively correlated. But that is exactly what one would expect given that both are normal goods. Holding income constant, the two would necessarily be negatively correlated in the Becker two goods case. Furthermore, such complementarity even if it existed is insufficient to maximize individual survival unless high status had real consequences beyond simply increasing the utility of its possessors. That complementarity would produce more risky behavior than was in the individual’s survival interest even though risk taking might be in his utility maximizing interest given the individual’s desire for higher status.

4 There is a considerable debate in the biological literature about whether sexual selection can arbitrarily select for otherwise non-survivable characteristics like peacock’s tails or whether such characteristics are ultimately selected because they are positively correlated with characteristics that increase survival probabilities. It would appear that the latter position is more defensible. Sexual selection of an arbitrary characteristic is sufficient to insure
survival on an individual level of that characteristic’s possessors. However, the group in which sexual selection generates favorable characteristics for group survival will survive relative to a group in which sexual selection is arbitrary. That group survival can either be generated by the correlation of the selected characteristic with pro-survival characteristics on an individual level (For example, healthier peacocks have more glorious tails.). But the selected characteristic can even reduce individual survival somewhat in the absence of sexual selection as long as it contributes to group survival.

5 So, for instance Lichtenstein and Kern (1987) report that people will pay more for improved housing characteristics in high income areas than in low. Studies of migration show that people prefer to migrate to areas with high income rather than low even when their own job opportunities are the same.


7 For a recent collection of papers on the role of imitation in economic behavior see Orlean (1998) and for its relevance to financial markets see Singh (2000).


