

Response to referee reports
("Income inequality and saving in a class society ..." MS 2529)

Let me start by saying that I am grateful to the referees for their comments and suggestions, which enable me to improve and polish the paper. Below I will deal with their reports one by one.

Review #1

There are four points of comments, (A)-(D). Regarding (A): the comparative statics in the paper are indeed limited to a specific type of pooling equilibrium, one with three social classes each containing a given number of income groups. "Extremes" income growth and redistribution might imply that the number of income groups of a social class changes and also the number of social classes. I will make this possibility more explicit at several places in the paper.

Regarding (B): I like to think that "upward-looking comparisons" are not restricted to cardinal comparisons. My impression from the literature is that it is just about comparing oneself with people who have more (in some dimension), and this may take account of how much more they have or just that they have more. As for my reference to the work of Runciman, the other referee report suggests that I should explain a bit more the relevance of the definition of social rank (eq. (4)) (see below), and then I will also reconsider this reference.

Regarding (C): the assumption that optimal present consumption depends negatively on rank indeed holds for the baseline model, and thus applies to all Sections 3-6. I agree that this negative relation might be restated where it drives an important result (e.g. in Section 4). I have tried to explain this assumption with reference to a seminal paper by Clark and Oswald (I found the assumption also in a recent paper by Robert Frank and others, an earlier version of "Expenditure cascades").

Regarding (D): I understand the referee's concern for my use of "happiness" in the title of Section 5, since the analysis is on average payoffs. It is a matter of taste, I traded a bit confusion for a more catchy title, and I would like to stick to that.

Review #2

- The first point raised is a fundamental one, about the employed definition of social rank. Although "strictly" looking-downward comparisons seem plausible, my reading of the literature is that strictly *upward*-looking comparisons are much more empirically relevant. Recent papers co-authored by Robert Frank (2014) and Rachel Kranton (2016) confirm this. Whether making such comparisons arises from personal envy or from care of reputation or both does not play a role in the reduced-form type of assumption (4). The implication that this may entail conformist behaviour I see as a strong point: "keeping up with the Joneses" is precisely about that – not about distinguishing oneself from others. The model also allows for separating equilibria, where everybody indulges in overconsumption (see HM). Though appealing, because this type of equilibria mimics a treadmill where everybody is running but keeps the same place, I find

separating equilibria a bit of a curiosity. Imagine a town street and (only) you know the incomes of the people who live there, and you observe that people with higher income have a more expensive car. To assess whether there is overconsumption across the board is an ambitious task: one needs an identification strategy that disentangles the roles of intrinsic preferences and status preferences. But what if you observe that people have the same or a more or less equally expensive car? I think situations like the latter aroused the interest in the role of status in the first place. Explaining social behaviour for me is explaining why different people do the same thing, rather than different things, and this is what the paper tries to do by focusing on a pooling equilibrium.

It is true that the status game in the paper is not a zero-sum game; the total amount of status is not constant. This could be remedied by normalizing assumption (4), that is, by dividing R^i by $\sum_{\mathcal{N}} R^i$. This would seriously upset the analysis though and require a lot of work. Yet my intuition is that this would not alter the basic implications of the HM paper and this one.

Anyway, I will try improve the exposition around assumption (4) (including the reference to Runciman).

- The second point is well-taken, the number of consumption standards is not endogenous but shaped by the underlying exogenous income distribution.

- Economic growth is usually indicated by a percentage, so it seems a natural starting point to examine what would happen if everyone's income would grow with this percentage (admitting that in reality the fruits from economic growth are often not equally distributed). The results in Section 3 are symmetric, holding also for a shrinking economy, and this may be noted in the paper. I will take a look at the alternative scenario of a shift of the income distribution that keeps its variance in tact.

- Sections 4-6 consider the consequences of a redistribution of income over social classes (not over income groups). The purpose of these sections (and also Section 3) is not to examine ins and outs of income growth and redistribution, but to highlight the role of ordinal status in these topics with reference to the existing literature on status. For this I tried to keep things as simple as possible. Adding more elaborate redistribution schemes, taxation, and voting might surely shade outcomes, but I fear would reduce transparency and lead away from the restricted purpose of this paper.

- The basic result (in HM) implies that, in equilibrium, the consumption level is at least as high as the utility-maximizing quantity of those with the highest-income in a social class. Equilibria with strictly higher consumption levels may also exist. In the next paragraph in the paper, it is said that attention will be restricted, however, to equilibria where the consumption level of a social class just equals this quantity. Footnote 9 explains this choice by noting that the selected equilibrium for analysis typically is the Pareto-dominating member of a family of equilibria (the other members of this family exhibit at least one social class with a strictly higher consumption level, so a social class where *all* its income groups are overconsuming). Pareto-dominating equilibria are often thought to be more stable than their family members.

- I will reconsider the notation of income groups and be more precise on the size of N , and also try to improve the figures.