Corrigendum to: Mankiw, N. Gregory, and Matthew Weinzierl. 2010. "The Optimal Taxation of Height: A Case Study of Utilitarian Income Redistribution." *American Economic Journal: Economic Policy*, 2 (1): 155-76

By N. Gregory Mankiw and Matthew Weinzierl

In this note, we address an error in a mathematical expression within our paper from 2010 that was brought to our attention in early 2025 by Anchi (Bryant) Xia. As we explain below, a straightforward revision to the expression addresses the error, and none of the paper's formal or quantitative results are affected by the omission. We would like to thank Bryant Xia for pointing out the error.

In the published version of our paper, the optimization problem for the social planner is given in expressions (4) through (6), plus the incentive constraints in (3). Expression (4) is the objective (i.e., average welfare), and it sums across both p_h, the share of the population of height group *h*, and $\pi_{h,i}$, the share of height group h with wage i. Expressions (5) and (6) together form the planner's feasibility constraint, split into two parts, but together they sum over $\pi_{h,i}$ *only*. That mismatch is a sign that we have omitted a summation over p_h somewhere in the two-part feasibility constraint.

To address this mismatch, we should weight by p_h in the left-hand-side of expression (5), so that the transfers themselves are scaled by the size of the type's group. Formally, expression (5) should now be:

$$\sum_{h=1}^{H} p_h \sum_{i=1}^{I} \pi_{h,i} \left(y_{h,i} - c_{h,i}\right) \geq R_h;$$

Conceptually, this adjustment ensures that expression (5) better matches what we write in the text of the paper. We describe R_h as the "transfer paid by each group." In contrast, a close look at expression (5) reveals that it is formally defining R_h as the "average transfer paid by each member of a group," precisely because it omits p_h. When we weight by p_h on the left-hand-side of expression (5), the formal definition of R_h would match our verbal one.

Part of why it is valuable to have the transfers defined this way (as the total from a group rather than the average from a member of the group) is that it enables the result at the bottom of page 158, where we say that the Lagrange multipliers on the feasibility constraints are equalized across height groups, so that "the marginal social cost of increased tax revenue (i.e., income less consumption) is equated across types." This is a conceptually appealing result.

Looking to the rest of the paper, if we adjust expression (5) in this way, we should apply the same adjustment to expression (9), which is identical. Formally, expression (9) should now be:

$$\sum_{h=1}^{H} p_h \sum_{i=1}^{I} \pi_{h,i} \left(y_{h,i} - c_{h,i}\right) \geq R_h;$$

We believe that no other adjustments are needed.

We also confirmed that our MATLAB simulation files do not have this error in them (that is, their feasibility constraints sum over both p_h and $\pi_{h,i}$). To be a bit more specific, they do not separate the feasibility constraint into two parts (e.g., expressions 5 and 6). It appears that, when we split the feasibility constraint into two parts in the paper (to provide the result on the Lagrange multipliers for intuition's sake), the error snuck in.