RESPONSES TO REFEREE 3'S COMMENTS

To Referee #3,

This letter summarizes our response to Referee 3s report, which begins with "The revised version of the paper is improved..." We thank Referee 3 sincerely again for the constructive comments. Below, we respond to Referee 3's comments point by point.

1. *Introduction*

   (1) The sentence has been changed to the following: "Not only do large firms generate fewer pollutants per output during production, but they are also more likely to use advanced end-of-pipe treatment technologies that require large installation costs." Please see the middle of the first paragraph on Page 2 of our new draft.

   (2) The sentence has been changed as follows: "Our results show that while the progressiveness of distortions does not imply large output losses, it plays a central role in amplifying aggregate pollution: replacing the progressive taxes with flat taxes would cause a 7% increase in aggregate output, and a 30% decrease in aggregate pollution." Please see the end of the last paragraph on Page 3 of our new draft.

   (3) We have removed some footnotes and integrated some into the main text. Specifically, the following footnotes from our previous draft are removed: 2, 3, 4, 7, 19, 23, 28, and 41. The following footnotes are integrated into the main text: 10, 12, 22, 25, 36, 39, 44, and 49. We have also merged Footnotes 16 and 17. As a result, the total number of footnotes has been reduced from 52 to 35.

2. *Model*

   (1) We have explained what the superscripts c and d refer to when they first appear in the model section; please see the beginning of the second paragraph of part *Household* in Section II.A (page 13) of our new draft. Specifically, the superscript c refers to the non-polluting sector, and d refers to the polluting sector.

   (2) In our initial submission, our model had one sector and two types of treatment technologies, so we used the index $i = 0, 1$ to denote the type of treatment technology ($i = 1$ for clean technology). In our version, there were two sectors in the model, so we used $i = 0, 1$ to denote the treatment technologies and $i = c, d$ to denote the sectors. It seems that the use of i in both places has caused some confusion, hence we use the index $j = 0, 1$ in our new draft. We apologize for the confusion. The j superscript is needed though, as there are a few technology-specific variables that we refer to.

3. *Quantitative Exercises*

We sincerely appreciate it that Referee 3 finds the results in Appendix J interesting. Indeed, this exercise is inspired by the referee's comments. We considered this suggestion very carefully; however, we decided to leave these results in Appendix J as they are now for the following reasons. First, the firm-level data suggest that there are severe correlated distortions in both the polluting and non-polluting sectors. Therefore, we think that it is more natural to consider removing distortions from both sectors. Second, when we remove the correlated distortions from the polluting sector only, the results depend critically on the elasticity of substitution between the two sectors ρ. Unfortunately, we have not been able to come up with a good estimate of ρ yet. On the other hand, if we remove distortions from both sectors, the value of ρ has very limited impact on the results.