

Statement on TSSS.

The key features of this story, as I see it, are:

1. The basic research question in ST comes from HS's earlier work, particularly the 2005 paper with Donald Hay in JEMS.
2. The idea of multi-stop shopping, which is a component of the ST model, did not come from SS or PS. HS presented a paper titled "Supermarket Choice with Multi-Stop Shopping" (co-authored with Yuwi Manachotphong, then HS's PhD student) at the IFS in December 2006, long before work on SSS was begun. Link to the conference programme here: https://www.ifs.org.uk/conferences/supermarkets_programme06.pdf
I do not know the details of what this paper contained, or whether SS or PS also had earlier work on this issue. But it shows that HS did not take the basic idea of a model with multi-stop shopping from SS or PS.
3. The multi-category idea and the quadratic utility model for this, did not come from SS or PS, as confirmed by the early versions (that I have posted links of) of the papers where ST had this but SSS did not.
4. None of us were the first to think of multi-stop shopping, multi-category shopping, quadratic utility, shopping costs, or any of the other features of the model. The real contribution of ST was to put all these things together in a model that could be estimated on the available data, come up with a way of doing it in practice, and to actually see it through. This was not trivial, as evidenced by the failure of SSS, and as anyone who has worked on similar things will presumably understand. Again, neither SS nor PS had anything to do with this.
5. The raw data used for both papers belonged to HS. Some practical features of the models, such as exactly how individual goods were aggregated into categories were different, since the papers used different numbers of categories. It was therefore not the case that estimation-ready data that had been prepared for SSS were taken over directly by ST. In our work on ST, HS sent me data files that contained the information needed in our model, e.g. aggregated into categories instead of by individual products. From our communication I always understood from HS that he prepared these files directly from the raw data. During the years that it took to finish the paper, countless details changed in how the data had to be prepared, so I do not see how data originally prepared by SS or PS for SSS could have been used for ST. In any case, if SS or PS had any role in this data preparation, I never heard anything about it.
6. I am sure that HS's thinking on ST was influenced by discussions with SS and PS in the context of the SSS project. But given points 1. – 5., it seems to me that this "influence" is more similar to the influence that seminar audiences, conference participants and helpful colleagues have

on any paper. Normally none of those people ask to be made co-authors, unless they actually do the work for the paper. In this regard I also want to point out that the working paper versions of ST all cited SSS. (The title of the paper changed several times, but there was only one paper with those three authors, so citations always refer to the same project.) The fact that HS told me several times that he did not think SS or PS had contributed to ST / that it would not be a case of genuine co-authorship to have them as authors on ST, indicates to me that this “soft” influence of SS or PS on ST was nowhere near a contribution to the paper that should merit co-authorship.

7. To summarize points 1. – 6., SS and PS played no role in the basic research question, model, data or execution of ST. To the extent that they had “soft” influence on ST, I believe this was adequately taken care of by the citation of SSS in ST.

This sums up my view on the question of whether SS and PS should be co-authors on ST. Some further remarks on things that have no bearing on that question:

8. HS never wanted to make this authorship dispute public, because he found it unprofessional and especially problematic since we had agreed to make SS and PS co-authors. He also strongly objected to making private emails public. In spite of this, he made a public statement that supported the story as I had told it, for which I am extremely grateful. I have put him in a very difficult situation that he never wanted to be in. I apologize to HS for this. I also want to make it absolutely clear that I acted alone, and against HS’s wish and advice, when I made this information public.
9. When I did make the information public, including private emails, and in spite of having signed an agreement with SS and PS, it was because I believe that this information ought to be public, if for no other reason than making it less likely that something like this should happen again. I think our agreement was not entered into freely, and since publishing the emails was the only way to make my story credible, I believe it was a situation where the end justified the means.
10. I mentioned the work in my PhD in my email to SS 31 October 2015, and again in my original statement on the authorship issue. I never intended to claim that my thesis contained work on this issue, although I realize that my statements made it look like I did and I am sorry about this. What I meant was that when HS told me about the two-stop / multi-category issue, it seemed very clear to me how we could do in practice the thing that he wanted to do, and I (admittedly subjectively) felt that the reason this was clear to me, was the work that I had done for my PhD. The memory of this experience of discovery made it surprising to hear SS say, five and a half years later, that the model in ST came from SSS, and that is

why I tried to explain to him how I remembered that HS and I had decided to model this in the way that we did. But I see that my memory of this was perhaps inaccurate, since there was no written record of who had suggested what in the first few meetings HS and I had on the ST project. Given HS's previous work on this, his role was probably bigger than I remembered.

11. In his statement on this issue, SS talks about his role in ST after he had been made a co-author. I agree that he made a contribution during this phase. However, this contribution was minimal, partly because I (and to some extent HS) resisted his involvement, because I felt it was not his project, and I wanted the final outcome to be shaped by HS and me alone. Still, we exchanged a large number of emails with SS where he provided feedback on our drafts and various decisions we made. SS is a very intelligent and capable person, and this feedback was certainly valuable. Still, assuming that SS's and PS's contribution is equal to the difference between the AER version and ST (before SS and PS) joined, is deeply wrong. It is true that the paper changed significantly from it was submitted until it was published. All these changes were of course made at the request of the referees, and therefore not thought up by any of us. One of the major changes was to go from cross-section data to three observations per household. I mention this as an example of a case where SS takes credit for things that he did not do. One of the reasons we had not used the panel aspect of the data in the working paper, was that it seemed too complicated, and I did not feel competent on issues of panel-data econometrics. However, I was very familiar with Gentzkow (2007) and BLP micro, and quite interested in clever ways of identifying unobserved heterogeneity. Using the ideas from these papers to come up with the new cross-period and cross-category moments in our paper is something that I am quite sure that I did alone, although SS probably provided some feedback later. Coming up with these moment conditions and later justifying them in a letter to a referee was a very rewarding part of my work on the paper, and one which I find it sad to see SS take credit for. More generally, I spent essentially all my time on revising the paper between March 2016 (when we first heard back from the journal) and March 2017 when the paper was accepted. Among other things this involved re-estimating the model, which took very long, a large number of times, for requested robustness checks etc. During the academic year 2016/17 I was on sabbatical, which I spent in Oxford. Since we were in the same place, I know for a fact that HS too worked exclusively on this in the period Sep 2016 – Dec 2016, and presumably for most of the time that we were revising the paper. Against this, the emails with feedback from SS make up a very small part of the work that went into the revisions. In any case, I have no wish to dispute that SS did make some contribution after he was made a co-author; he certainly did. My initial post was about whether he and PS should have been made co-authors in the first place. For this issue, see points 1. – 7. in this document.

12. I could not have written this paper without HS, even if I had the data, and somehow had come up with the idea for it myself (which I did not). I am grateful to HS for asking me to work with him on this project.

Oyvind Thomassen, 23 December 2018.