Response to Reviewers

**Reviewer #1:**

The manuscript applies a Bayesian forecast reconciliation method to forecast Swiss merchandise exports. There are several interesting aspects on the paper. The introduction provides a motivation of what follows and the methodology makes sense to me. The structure and the arguments are clear.

Section 1 provides, the introduction, motivation, the related literature and the contribution of the study. The motivation is strong and the section provides an overview on the related research. However the contribution of the paper could have been more clear. There is a related paragraph in the pg 3 and 4 that should be expanded. There should be a more direct comparison with the related literature and the advantages of the new approach.

Section 2 has the related methodology. The approach seems correct to me. The "more novel" part for me is section 2.3. I believe that the manuscript will benefit from extended simulations of the effect of the bias shrinkage (in addition to the simple one presented in figure 2)

Add comparisons between top-down and approximated top-down, etc. Reason for OR.

Section 3 has the dataset. There is a description of the series under study, however I would like to see some summary statistics on the series under study. I wonder on the effect of time varying exchange rates on your figures and if they have any effect on the estimations that follow.

Section 4 presents the empirical analysis. You mention that there is a detail description of the methods in Appendix A.3 (footnote, 3). There is some related information but it is definetelly not detail. You need to expand this part. The forecast evaluation should been richer. The comparison is based on the RMSFE and several graphs. Are your results similar with other forecasting metrics?

Also in addition to the DB test, you can employ the Giacomini, R., & White, H. (2006). Tests of conditional predictive ability. Econometrica, 74(6), 1545-1578. For your sub-periods: 2007 should be in the crisis. It is not a moderate year

Section 5 has the conclusions. I believe that this section is short. You should expand the comments related to the possible applications of your method to OR and forecasting. What are the implications of your study to practitioners and researchers?

**Reviewer #2:**

In this paper authors have developed forecast reconciliation framework using Bayesian state space methods. They find that the use of state-space methods is promising for producing accurate forecasts.

The paper is an extension of the 'structural scaling' and 'MinT' approaches with the Bayesian flavor. I find the proposed method interesting, addresses a significant problem, and well structured. Several problems need to be addressed before the paper can be considered for publication. However, if the authors have done what I think they are trying to describe, then I see no problems with their methodology. For this reason, revisions are recommended.

General points:

\* When reading the manuscript, it is clear that the authors have not consulted the instructions for authors, which is provided by the publisher's website. These instructions need to be followed.

\* For example, there is no 'Highlights' section, which according to the instructions for authors "Highlights are three to five (three to four for Cell Press articles) bullet points that help increase the discoverability of your article via search engines. These bullet points should capture the novel results of your research as well as new methods that were used during the study (if any)."

\* The authors are often repeating the same information multiple times. The text should be shortened by omitting redundant information.

\* The presented abstract and discussion are insufficient and need to be expanded.

\* The written English is substandard as detailed -but not limited to- the specific points below:

\* Specific points:

o Add a hyphen state-space, lower-level, single-level, top-level, state-dependent.

o Abstract, line 30: It is unclear what "This" refers to.

o Abstract, line 31: remove the redundant preposition "at"

o Page 1, line 5: "in nature" creates tautology.

o Page 1, line 5 and page 3 line 51 and Page 13: "comma before "therefore".

o Page 1, line 11: The sentence is unclear, rewrite the sentence start with "This".

o There are sentences that an "and" or "or" should be placed after the final comma to mark the end of the list. Examples include, but are not limited to, page 3 line, page 8, and page 12.

o Page 3, line 51: Add a comma before particularly

o Page 4, line 5: The word "policy makers" seems to be miswritten. Consider replacing it.

o Page 5, line 22: Add a comma before "for" and/or after "instance"

o Page 8, line 35 and page 10, line 32: It appears that you are missing a comma or two with the interrupter on the other hand. Consider adding the comma(s).

o Page 10, line 21: Add a comma before "with"

o Page 11, line 39: The noun phrase strength seems to be missing a determiner before it. Consider adding an article.

o Page 12, line 28: The noun phrase optimal hierarchical combination seems to be missing a determiner before it. Consider adding an article

o Page 16, line 51: The verb "do" does not seem to agree with the subject.

o Page 18, line 5: The word difficult is often overused. Consider using a more specific synonym to improve the sharpness of your writing.

o Page 19, line 21: Relying does not seem to work here

We are grateful to the referee for pointing out these specific issues. We have addressed each of these points. In addition, the text has undergone further proof-reading, consistent notation and references.

\*\*\*