

## ***Interactive comment on “Analyses of impacts of China’s international trade on its water resources and uses” by Z. Y. Zhang et al.***

### **Anonymous Referee #2**

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General Comments: This paper addresses an important issue about China’s water resources/uses from the perspective of “virtual water”. The innovation of this paper is the quantification of the virtual water flows in China at sector and provincial levels. A major confusion of this paper is the exclusion of inter-province water trade in the analysis (the authors are required to address this issue in the reply). In general, I recommend the editor to publish this paper, with several revisions given below.

Specific comments: In Abstract (Page 3544, line 14-16): The final suggestion given in the abstract though sounds reasonable, it is premature in this paper. The author only briefly mentioned this at the end of Sec 4.3, using the evidences not drawn from the analysis done in this paper. It is an implication rather than a conclusion. I suggest

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the author change this conclusion into others based on the analysis that is done in this paper. In Sec 2.2.4 (Page 3551, line 16-20): The usage of beta is unclear, and the beta never shows up in the later text. The author needs to make it explicit how beta is linked with m. In Sec 2.1 (Page 3547, line 14-28): line 25 said “Mixing blue and green water in the analysis could derive misleading conclusions in assessing the efficiency in water resources utilization across regions and among different sectors”. This statement is lack of evidence to support. Add more literature to support your statement! In Sec 4.4, the whole section talks about the limitation of the approach, and it is not a conclusion at all. I suggest the author to change this section as “limitation of the method”, and write another “Conclusion” part. The “Conclusion” should summarize the major findings of the paper, not as the one in the last paragraph in Sec 4.4.

Technical comments: Page 3547, line 20: What “which” refers to is unclear. The author needs to modify this sentence. Page 3548, line 8: “are” -> “is” Page 3550, line 2-3: suggest to add brackets for  $w_j$  and  $X_j$ , to distinguish with  $j$  before. Page 3553, line 3: at the end of the paragraph, add “(Table 1)” to tell readers what you are talking about. Page 3554, line 6-20: Suggest to combine these two paragraphs together, and add “For individual sectors,” before line 10. Page 3555, line 1: this sentence expresses the same meaning as the first sentence in the last paragraph, thus it is repetitive. Delete one of them! Page 3555, line 2: unclear about “ratio” (I think it refers to Fig. 3). Make it explicit! Page 3555, line 7: The first sentence should be changed into “Water resources endowments vary across provinces in China”. Page 3555, line 17: remove the comma behind the brackets Page 3556, line 14: remove “(Table 3)” to the end of the sentence in line 9 on the same page. Page 3557, line 27: delete “rather” Page 3558, line 1: delete “rather” Page 3559, line 1: “stemmed” -> “stems” Page 3559, line 5: unclear what “IO” refers to, do not use acronym without defining in the first place. Page 3559, line 20-25: The last paragraph in Sec 4.4 definitely is not appropriate as a conclusion. Expansion is needed. Please refer to the last suggestion in “Specific comments”. All the tables and figures should be added the data source and the time domain, e.g. “based on ...statistics data ... from 2002”. Table 3: unclear what “WR” and “NVWE” refers to.

Make them explicit in the Table caption. Figure 3. Bigger x-axis caption.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 3543, 2011.

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