

Interactive comment on “Institutional design and regime effectiveness in transboundary river management – the Elbe water quality regime” by I. Dombrowsky

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Reviewer 1

Comment: The conceptual framing remains weak. In the Introduction, the author uses the asymmetrical conditions as a point of departure. If this is indeed the study’s anchor it should be more rigorously followed and defiantly returned to at the paper’s end. A table on how the different institutional faces offset the asymmetries can help here.

Response: My main argument in the introduction is that, eventually, if we want to learn more about adequate institutional design of international water regimes we need to study their effectiveness. Thus, the asymmetrical condition at the Elbe is not the study’s

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Discussion Paper

main anchor, but the specific constellation at the Elbe is mentioned as an additional reason for having selected the Elbe as a case study. It is true that there is an emerging literature about the effect of different combinations of geographic and economic asymmetries on international rivers respectively, but this is not the main focus of the study it would go beyond the scope of this paper to elaborate on the various arguments in detail. In light of this, I have sought to strengthen the case for the need to study effectiveness in the introduction. I furthermore have specified the specific geographic and economic asymmetries on the Elbe.

Comment: A second point is that the literature review can be better connected to the Discussion. I also expected to find more on how regime set up affects effectiveness. A third point concerns how the causal relationship between the effectiveness of the regime and the regime structure is presented. It seems a bit anecdotal, though it is depicted dryly. Again, using the asymmetries (or any other variable) as an anchor can improve this chapter.

Response: I have revised Section 5.1.1 in order to enhance the presentation and analysis of the causal relationship between institutional design and regime effectiveness. First, I have sought to distil and present the main institutional factors more clearly. Second, at the end of the section I get back more explicitly to the question of causality. I have also inserted additional links to the literature review.

Comment: Finally, the author should try and make his conclusion more pertinent to other cases, beyond the Rhine. If the ICPE is part of the EU Water Directive, and we are likely to see more such initiatives, discussing it can probably help here.

Response: The last paragraph in the conclusion exactly summarizes the conditions under which the lessons learned on the Elbe can be extended to other cases beyond Elbe and Rhine. However, I have slightly revised this section in order to make my argument still stronger, also getting back to the specific asymmetries in the Rhine or Elbe basins. As mentioned in the introduction, the intention of the paper is to discuss

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the institutional structures that were set up on a voluntary basis before the EU WFD mandated a river basin management approach, thus the comment with respect to the WFD is not directly applicable.

Further comments and responses:

- mention the global fashion of establishing basin commission in introduction to improve motivation: I have added a sentence in that regard.
- update the literature review on effectiveness and institutional design in introduction: As mentioned above I have strengthened the argumentation in the introduction and I have also added additional references, in particular on institutional design. However, as reviewer 1 mentions in the previous comment, overall effectiveness has not extensively been studied.
- elaborate on the role of the Rhine as a model: I have included a short summary of its main features in the introduction.
- comment on revealed versus stated behavior/reference: I think the issue is less revealed versus stated preferences, than objective; versus subjective measurement of success. In Table 1 I specifically contrast the commission's objective measurement of goal achievement with the commission members' subjective evaluations. Furthermore, as suggested by the journal's editor I have added qualifications on the relevance of the quantitative results, and on the subjectivity of the scores and weights respectively.
- shorten section on Elbe water quality regime; insert table with regime features: In my view the section is already fairly brief.
- quote LeMarquand (1977) on upstream-downstream relationships: The reference has been added.

Reviewer 3

Comment: In Table 3 a column could be added with either the standard deviation or

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the coefficient of variation in order to reflect variations of opinion among the interview partners.

Response: In Tables 1 and 3 the coefficients of variation of the participants'; scores have been added, and references to the respective values have been inserted in the text.

Comment: The manner in which the no regime counterfactual NRID has been calculated remains intransparent.

Response: I have added a Table 5 'Translating the Qualitative Assessments into Quantitative Weights' and inserted the respective weights in new Table 6 (previously Table 5). Based on this, I have recalculated NRID and E_i .

Comment: Check the value for E_i .

Response: See above.

Comment: What is fish patency?

Response: The correct term describing whether fish can freely move up or down a river is river patency or river continuity. As the EU WFD uses river continuity, I have replaced fish patency by river continuity.

Editor

Comment (1): Improve the use of the term asymmetry to make comparisons possible

Response: As mentioned above I have specified the geographic and economic asymmetries on the Elbe and improved the discussion of transferability at the end of the paper.

Comment (2): Refer to other cases, as suggested by both referees, and not only the Rhine

Response: In the introduction I have added references to cases beyond the Rhine.

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However, to my knowledge, and as confirmed by reviewer 1, not many rigorous effectiveness studies have been carried out.

Comment (3): Qualify limits of expert scoring and relevance of quantitative results

Response: I have taken up the proposals of reviewer 3 to include co-efficients of variation of the experts' scores, and to make the weighing process in calculating the no-regime counterfactual more transparent. Furthermore, I have further specified the limits of the quantitative assessment at the end of Sections 4.3.1 and 4.3.3 (limited number of participants, differences in interpretation, possibility of bias in the evaluation, difficulty of weighing). However, as mentioned and further elaborated in Section 2.2, in particular with respect to the number of participants it is unlikely that it would have been possible to achieve a significantly higher number of substantiated expert scores, as the number of people that are acquainted with the various components of the Action Program appear to be limited.

Comment (4): See reviewer 4 for scores on no regime counterfactual

Response: The reviewer's proposal to insert explicit weights has been taken up.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 4, 1625, 2007.

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