Response to Reader 1 (Anonymous Reader)'s Comments

Thank you very much for your careful review of our paper. We appreciate your constructive and thoughtful feedback. Below we describe in detail our responses to your comments. We are happy to revise the paper along the lines you propose and as described in the responses below.

Specific comments:

0. *The paper asks an interesting research question (does the border effect differ if it is maritime?) using Spanish data. The results are suggestive, but I would have liked more details of the gravity model and robustness of the results, which are reported briefly in an Appendix table. These are what the decomposition depends upon.*

   Authors' response: We take the reader's point. We have placed the estimation results tables in the main text instead of the Appendix as well as complemented the current explanation to increase its level of detail. Additionally, we have created a robustness checks section (section 5).

1. *Are the Balearics and Canaries special cases among Spanish regions, apart from being islands. For example, being relatively tourism-dependent might affect the GM results in ways not simply picked up in fixed effects.*

   Authors' response: The reader's concern seems to be that the islands' tourism-dependency may cause distortions in the estimations. We now discuss this issue in the newly created robustness checks section (subsection 5.1).

   Naturally being islands makes the Balearic and Canary islands more attractive for sand and sun tourism, thus increasing internal demand during the high season and increasing imports during those months. Distance and tourism-dependency are likely to be positively correlated. We are already approaching the potential demand by two time-varying size measures: GDP, that includes the domestic revenue produced by all the sectors in the economy, including the tourism sector; and permanent population, that controls for the number of regular consumers, part of which are workers in the tourism sector, but excludes the tourist visitors. It can be argued that our measure of population does not capture the sudden peak that potential visitors represent for demand during the tourism season and, therefore, we should try to control for this effect.

   In practical terms we should add the "appropriate" measure of floating population to the importer regions but not to the exporter ones. Introducing such a measure will reduce the explanatory power of the distance variable *only* if both variables, floating population and

distance, are not orthogonal.[1] On the other hand, this raises some measurement issues to tackle. First, we have to consider that tourist arrivals for each region should be weighted according to the average length of the stay. Second, we have some data availability problems because data on international tourist arrivals by destination region are available only from 2001. For domestic tourism, data are available since 2006. Third, there would be an underreporting of the domestic tourism flows since it is much harder to detect people's movement when there are no border crossings. Moreover, in the longer term, tourist visits may also increase exports to their regions of origin. Fixed effects would pick this up, but it can also be isolated in the way described above in the exports equation.

Therefore, we have extended our baseline regressions for imports and exports to include the floating population of the reporter region. However, there is a reduction in the number of observations and the coefficients are not significant in either equation. Moreover the Oaxaca decomposition shows now a higher relevance of the unexplained component of the distance variables. Alternatively, we have also estimated the baseline model with the share of tourism in GDP and the results are quantitatively the same as this variable is not significant either. Moreover, we have performed an additional check (not reported) introducing origin-time and destination-time dummies in the gravity model and obtained higher distance coefficients for island regions. This means that our results remain robust to the introduction of tourism and the structure of the economy does not affect our results.

2. *What happens if the GM is run separately by mode? For example, are the differences due to being islands or to greater reliance on air transport?*

   Authors' response: As we published on July 18, it is not possible to disaggregate the regional trade flows by mode of transport and by origin/destination (at least not with the data available to us). We can only say that the part of the trade cost that is due to being an island is linked to the need to use air transport or a combination of sea and road transport (intermodal transport). In fact, intermodal transport is less competitive than road transport on short-distance routes (which is the case of interregional trade), but island regions have no choice. A more detailed justification has been added to the revised version of the paper.

3. *Does it matter that the two island regions are much closer to non-Spanish trade partners than other Spanish regions are, Canaries to NW Africa, Balearics to southern Europe? The latter is especially a concern if Schengenland is the relevant domestic trade area rather than Spain. Points 1 and 2 may have been covered by the authors, but the evidence should be included in the paper. Point 3 is more fundamental, in the spirit of recognizing that multilateral resistance matters. It could be addressed by a Schengenland analysis that includes islands such as Corsica and Sardinia as well as the Spanish island regions, but that would be a major extension of the research*

   Authors' response: Indeed we observe in the data that island regions present a relatively higher share of international trade than mainland regions, but this result strengthens the

[1] This is unlikely given that all Spanish regions experience a high increase in the number of visitors during the summer season.

paper in two ways. On one hand, it demonstrates that island regions are competitive internationally, so that any difficulties they may face in interregional trade should not be attributed to the lack of competitiveness of their products. On the other hand, together with the higher share of internal trade, it motivates the possibility of non-linear effects in the trade cost function due to the fixed costs incurred in using air transport or an intermodal combination of sea and road transport as explained in the previous point. This idea has been explained more clearly in the revised version of the paper and supported by additional data. Moreover, the conclusions incorporate the extension of our analysis to other countries as an idea for future research, since our methodology can be applied to any sample of island and non-island regions.