

Interactive comment on “The asymmetric impact of natural disasters on China’s bilateral trade” by Y. Meng et al.

J. Mysiak (Referee)

jaroslav.mysiak@feem.it

Received and published: 28 August 2015

The paper by Meng, Shi, Yang and Jaeger offers a noteworthy contributions to studying economic impacts of natural hazards and disasters. It analyses bilateral trade flows from a single country’s perspective, by applying an intuitive gravity model, and shows how the trade pattern is altered as a result of large-scale disaster strikes (LSD). Only a few studies have conducted a similar analysis using gravity models. In addition to Gassebner et al., (2006) and Oh and Reuveny (2010) that are quoted in the paper I can only suggest adding da Silva and Cernat (2012). Still the authors may elaborate more on the experience and insights learned from the model application in other areas (e.g. Gassebner et al., 2006) and using different model specification (e.g. Gómez-

C1577

Herrera, 2013). Putting the applied model’s results in the context of other gravity model applications would help to qualify and interpret the results in the sections 3 and 4. The paper is well written, except for Section 1 and the second half of the Section 4 that would benefit from a though revision.

Specific comments:

In equation 1 on page 2008 the coefficients (exponents of GDPs and D) should be added and the term C (constant) explained. The term D may be more generally explained as ‘trade costs’ of which distance is an approximation. Using the number of recorded disaster from the EMDAT for the specification of the model is somehow limiting. Besides, the database is susceptible to reporting biases over time and from some geographic regions. Importantly, the comparison to Gassebner et al. (2006) is wrong because in that paper a threshold was applied and only ‘great natural catastrophes’ considered. A high R squared of the models (page 2011) does not necessarily indicate a good fit of the model, if the residuals are not random. On page 2013 (the first line) I assume the ‘amplified’ should rather mean ‘attenuate’. On the same page and referring to the Figure 3, there are only 5 trade partners of China whose area exceeds 7.35 mil sq.km. In these cases it is perhaps not the exact land size but rather the sheer weight of these economies that matters. The fact that disasters are less important than other characteristics of the countries in shaping the international trade does not mean that the ‘bilateral trade’ of China is resilient (page 2014).

Technical corrections:

In abstract and elsewhere in the text the authors may revise formulations like ‘.. and faces the most frequent natural disasters.’, or ‘International trade is one of the major approaches linking the world’. The former only implies that China is prone to recurrent disasters, which is not surprising. If the text was to indicated that China was affected ‘most frequently’ based on the EMDAT-recorded disasters, one could still doubt whether the reporting bias. Section 1 is rife with unqualified statements, for example one could

C1578

argue that large scale disasters (by meaning of the word) have always, and not only in recent years, been a challenge for society.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 2003, 2015.

C1579