

Interactive comment on “Factors affecting flood insurance penetration in residential properties in Johor Malaysia” by U. Godwin Aliagha et al.

Anonymous Referee #1

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The authors of this paper wish to investigate how many people have brought flood insurance in what individual traits best predict the purchase of insurance via the use of discriminant analysis. The topic is quite interesting with a newly generated source of data (a survey of 3 regions of Malaysia). The study fits in with the wider literature trying to investigate the factors that motivate flood insurance pursuance. The study adds to this by attempting to rank the importance of various traits that might influence the decision to buy flood insurance.

I do have several comments directed towards the paper. To begin with, there are several minor comments. There are many typos in the text of the manuscript (see the highlighted text in the supplementary PDF) that should to be corrected. There are also several statements made that need to be better motivated. This is because at first

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glance these statements are not unambiguously true (see comments in the supplementary PDF). A further minor comment is that the results of table 2 seem counter intuitive. This could be corrected because the dependent variable is of non-standard construction (2= no insurance, 1=has insurance), if the assigned values are reversed the estimated values would be more intuitive (the correlations would only change direction). Another minor comment is the title of the paper, insurance penetration is implied to be the main topic of the paper. Rather, the paper investigates at an individual level while an investigation of penetration rates would require a more “macro” approach. Though, it is true that if there is a higher propensity to buy insurance in a region then the penetration rate should be higher, but unless we also see the characteristics of the region we can’t judge how penetration rates should change. Furthermore, the authors only dedicate a few lines to the penetration rate and rather more into the factors that promote insurance purchase. I would suggest replacing the word “penetration” in the title with “purchase”. It may also be useful to clarify which of the two objectives is the more important one and use this to streamline and focus the paper on this objective.

I do also have some more major comments. The choice of discriminant analysis as the paper’s key tool is motivated regarding its applicability, however, there is no discussion of assumptions required for the statistical tool to be valid. Without mentioning the underlying assumptions it is hard for a reader to judge if these assumptions are likely to hold in this application. Along these lines a deeper discussion of the mechanics or practical nature of discriminant analysis, I feel would also be useful for the paper, as I cannot recall another paper in this topic using the same method. I also believe that the paper’s investigation into insurance penetration rates could be better supported by the discriminant analysis if this is the true objective of the authors. For example, once the variables have been ranked maybe the differences in the average person in each region to see if this helps to explain, informally, why the penetration rate differs between regions.

A further way of supporting the analysis would be a more developed reasoning for

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why a small range of variables is investigated in order to rank them. There are a great many variables that could be included, so it might be useful to future motivate why these particular variables are selected, and for example why protection motivation theory based variables are not included, and an improvement of why prospect theory is focused upon. It might also be an interesting addition, as far as possible, to discuss if the results hold closer to prospect theory for expected utility theory.

Overall, I feel that the question that the paper seeks to answer could be very interesting and relevant as it attempts to move beyond investigating the various factors that influence the decision to buy insurance. Though there is room for improvement regarding the current manuscript.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/2/C955/2014/nhessd-2-C955-2014-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 3065, 2014.