

#### Minor revisions:

- The reviewer commented: "It seems that its first row of audience should have been the decision makers in the economic sector of the government, and then the principals of the insurance companies. The last row goes to the external ears. Was it tried in the same order, since now it has ended up in an international journal?" You answered: "Yes, the idea of this research started with communications with Central Insurance of Iran and then continued in the form of presentations for insurance principals. This is the last stage of this activity to share the challenges and possible solutions to primarily at regional and then international level." So, please underline at the end of the introduction the topic highlighted by the review and your answer.

- At line 203 add your response to reviewer: these rates are not correct representatives of the building class vulnerabilities and seismicity of cities mentioned. This is why we did a risk modelling to determine reasonable premium rates. Please add also in the text this explanation.

- The reviewer commented: "A drawback in Fig. 1 is seemingly its sharp contrast in some places such as Khuzestan. In other words, the so-called "PGA" cannot physically change drastically between two close points on the map." You answered: "The study has been carried out at the national level; therefore, the resolution is coarser than local studies. Due to the lack of seismic events and active faults in southeastern Khuzestan, the results show the lowest values of PGA. This is consistent with other seismic hazard studies previously referred to." Please add this explanation also in the text.

- At row 390 please add your response to review: "Esfahan province has the second largest exposure after Tehran in census 2016. That is why it has a high level of exposure for each class of buildings."

Added.

- Please, in the discussion add a brief description of the results of study of Kohrangi et al. and this your comment: "Due to the lack of frequent seismic losses, the validation of earthquake model results is challenging. Depending on hazard model, vulnerability curves, exposure model, and method of calculating losses, quite different risk results can be generated by different models. This is something accepted in the insurance market. Two studies are based on different hazard, vulnerability and event exposure models and the difference between results is inevitable. Moreover, our study is at national level. We have used one set of vulnerability curves for residential buildings in all parts of Iran. For sure, our figures are different to a city-level study. This does not disqualify either of studies but highlights the impact of study scale and different input data."

- At the end of the conclusion, please, add as limitations of this study the review comments "this is a unique and valuable study in its kind in the country. In normal conditions, it could originate serious discussions and challenges for the bettering of the relevant sectors." and "The earthquake solvency capital is a function of earthquake risk and risk appetite of the market. Here, we assumed a similar risk appetite between the Iranian insurance market and the European union. Although the average GDP per capita in Eu is about 10 times Iran's GDP per capita, we are convinced that the earthquake capital requirement should follow the risk profile of the country and the sum insured.". Moreover, please add as a further development "The subject of the paper is not directly related to parametric insurance. However, the seismic risk model developed can be used to design a parametric product for earthquake, perhaps something useful for the public natural hazard insurance fund in Iran."

- Please, to help the readers add in the text the definitions of both 'county' (it is mentioned for the first time in table 1) and 'country'.

Technical corrections:

- line 24: insurers. It.

Definition of County added.

- line 34-35 (and in the rest of the text): remove [], put the two references within () and separated by semicolons, and in the form "Author 1 et al., year" and "Author1 and Author2, year" following the guidelines available here: <https://www.natural-hazards-and-earth-system-sciences.net/submission.html#references>. Accordingly, to the guidelines, please uniform all the references in the text (e.g., at line 90 (Lawson, et al., 2001) should be (Lawson et al., 2001) or at line 112 (Kelly & Stodolak, 2013) should be (Kelly and Stodolak, 2013)) .

- line 36: add a space before of "100,000 of" .

Modified.

- line 74: uniform the way to write Solvency II (as well as the Solvency 0 and Solvency I), i.e., with or without –.

Modified.

- line 81: 6 instead of six.

Modified.

- line 81-82: remove, not needed.

Modified.

Modified.

- line 97: define SCR here and not at line 140.

Modified.

- line 106, 228, 427, 445: add a comma after e.g. .

Modified.

- line 110-111: uniform the way to write numbers, i.e., 12 and 9 and 2 or twelve and nine and two.

Modified.

Modified.

- line 111: change "quakes" into "earthquakes" .

Integration of the footnotes to the main text would undermine

the style of the text. In the rest of the text, avoid the use of notes at the end of the page. Put the note text in line with the main text harmonizing it.

footnotes

Modified.

Modified.

- line 136: remove . at the beginning of the sentence.

- line 168: the year of Shahriar et al. is missing.

Modified.

- line 180 and many others: add a comma before and (line 180: dwellings; line 181: concrete, and; - line 182: Ahvaz, and; - line 182: Kerman, and; - line 189: credit, and; - line 202: concrete, and; - line 237: correlated), and; - line 250: exposure, and; - line 333: 5-year, and 1-year; - line 384: (east), and; - line 386: Tehran, and; - line 387: south, and; -line 439: Shiraz, and; -line 490: seismicity, and) .

Modified.

Modified.

- line 267: remove space after "model" and before "." .

- Figure 1: add legends, graphical scales, north arrow.

- line 271: do you mean "logic trees"? .

- line 288: do you mean “province of Esfahan”? .
- line 290: what do you mean with figure? .
- line 294: change “for these studies with the present work” into “for these studies and the present work” .
- line 301: developed by Mansouri and Amini-Hosseini (2013) .  
Modified.
- line 303: were (the subject is “curves”) .  
Limits was meant. Modified.
- line 318: am, mm, rcm, and sm in this figure.  
Modified.
- line 321, 450: replace RC with rcm.  
Modified.
- Figure 4: add letters from a) to d) to the four panels and use these letters in the caption instead of “upper left”, “upper right”.  
Modified to reinforced concrete.
- line 446: remove the space between ) and .  
Added.
- line 493: uniform the way to write square meter.  
Modified.
- line 513-514: remove them. Modified.
- line 569: remove space before . at the beginning of the line.  
Modified.
- line 579: remove because it is equal to 580.  
Did not understand the comment.
- line 583: data, using.  
Modified.
- line 584: 2013), and.  
Modified.