Author's response to reviews

Title: Distinguishing the Types and Severity of the Disabilities of the Farm Population: Evidence from the National Farmers’ Health Insurance Program in Taiwan

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Author's response to reviews: see over
Response to Reviewers’ Comments

We would like to express our appreciation to your constructive suggestions on our earlier manuscript. In this revision, we have incorporated many of the reviewers’ suggestions into the manuscript where appropriate. By making these revisions, we believe the quality of the paper has been improved significantly. Below, we address our response to each of your specific comments.

Response to Reviewer Professor Robert Meyer’s Comments:

1-1. The data presented do not add much to the field of study, in that as farmers age -- their potential for receiving disability payments increases. On page 9, it is stated that the "The FHI Standard for the Disability Payment" included 10 types and 160 items of disability, each corresponding to a level of disability. IF the authors would have included this information in their analysis then the work will have more value to the field of study -- namely that the types and severity of disability by age group of farmers could be reported.

Response: Thank you for your thoughtful suggestion. To accommodate your suggestion, we now have provided additional information and analysis on the types of the disability, as well as the actual received disability payments. In doing so, we believe our paper can contribute more on the field of study. To the best of our knowledge, no study had examined both the type and severity of disability of the farm population using a national representative data.

The detailed definition/content of the ten different disability types and the sample statistics are presented in Table 1. To investigate the effects of the exogenous variables on the likelihood of receiving different types of payments, a multinomial logit model was estimated. The estimated odds ratios are presented in Table 4.

1-2. The conclusion states (page 15) that "the natural causes related to age structure is the driving factors of the disability incidence among FHI insurants in Taiwan." I don’t think that claim can be substantiated based on the information given since a age-matched set of non-farmers was not presented as comparison. Also, type of disability reported would lend support to this statement if it were presented.

Response: Consistent with the results in Table 3 which examined the effects of the exogenous variables on the likelihood of the received disability payments, the effects of insurants’ age is more pronounced than the effects of the occupational factors in the
disability types (Table 4). However, we do agree with your suggestion in that our statement will be more robust if we can compare our results to the non-farmers. To accommodate your suggestion, we now make our findings more precise by stating that these findings are only revealed among the farm population.

2. The reference group -- hired worker -- may not represent the same level of risk as a farm owner. More information would need to be presented to understand the social and occupational roles and tasks of Taiwanese farm operators as they progress through life.

Response: We have some discussions of the differences in the occupational risk among different job categories. They can be found on page 8-9 and are replicated below for your information.

"Recognition of the different types of job categories is important since different job categories reflect different intensities of farm practice. For instance, spouses normally are farm helpers and they engage less frequently in farm practice. Therefore, they may encounter fewer occupational risks and have less likelihood of disability. In contrast, tenants and hired employees work on the farm more intensively. Therefore, they may have a higher likelihood of becoming disabled."

3. The title is not supported in the manuscript. "What causes the disability of Farm Population? Evidence from the National Farmers' Health Insurance Data in Taiwan." As mentioned previously, the data presented does not state cause of disability, only that disability payments tend to increase as the population ages. No causal factors are discussed.

Response: Thank you for your suggestion. To accommodate your earlier suggestion, we now have additional analysis for the disability types, as well as the actual payments. To be more precise of our findings, the title of the paper is changed to "Distinguishing the Types and Severity of the Disabilities of the Farm Population: Evidence from the National Farmers' Health Insurance Program in Taiwan". We believe this new title is more suitable for our revision.

4. Quality of written English language needs to be addressed before re-submitting.

Response: We have asked a professional English editor to proofread our paper.
Response to Reviewer Professor David Zimmer’s Comments:

We would like to express our appreciation to your constructive suggestions on our earlier manuscript. In this revision, we have incorporated many of the reviewers’ suggestions into the manuscript where appropriate. By making these revisions, we believe the quality of the paper has been improved significantly. Below, we address our response to each of your specific comments.

Our response to your comments

The paper, which is mostly descriptive in nature, examines socioeconomic factors that correlate with disability, and the amount of disability compensation received. I thought the paper was interesting, especially the unique data source. I have a few small comments and suggestions.

Minor Essential Revisions

1. On page 4, what does “compulsory but preferential” mean? Does this mean that the FHI offers more generous benefits, or smaller cost-sharing, compared to the NHI?

Response: Compared to the NHI, the premium rate is lower for the insurants in the FHI. The details of the differences between the FHI and the NHI in term of the cost-share can be found on the official document of the Health Department in Taiwan. Since we only focus on the insurants of the FHI program, we didn’t further address this issue in this study.

2. On page 5, was there a national health insurance program before the NHI was established in 1995?

Response: There was no other national health insurance program except the one introduced in 1995. Before 1995, farmers have to participate in the FHI in order to have medical care benefit, as well as other benefits (including maternity, injury, sickness, disability, and death). After the inauguration of the NHI in 1995, all medical care benefits in the FHI program were taken over by the NHI. The benefits remaining in the FHI are: lump-sum cash payments related to the maternity subsidy, disability compensation and funeral allowance. These discussions can be found on page 5 of the revision.
3. On page 5, and elsewhere, I am not familiar with the notation NT$. Is this Taiwanese currency, or are these U.S. dollars? American readers will appreciate U.S. dollars, or at least a recent conversion rate, to gain a sense of magnitude, but for Taiwan public policy, Taiwanese currency might be of more importance.

**Response:** We have provided the exchange rate between USD and NTD in the text and the footnote in Table 2 and Table 5. The exchange rate as of July 14, 2010 was 1 USD = NT$32.1 approximately.

4. I was a little baffled at the age of Taiwanese farmers. The lowest age dummy used in the analysis is “<45”, which seems appropriate given the sample means in Table 1. But why are Taiwanese farmers so old?

**Response:** Based on our insurants data in 2008, the average age of the insurants in the FHI is 61.4. This result is consistent with the report of the 2005 Census Data of Agriculture in Taiwan (58). In general, the farmers in Taiwan are older than the farmers in the U.S. The old-age structure of farm population has been caught great attentions for policy makers in Taiwan. Due to the small-scale farming system and relatively low return of agriculture compared to other sectors, young generation are more likely to work off the farm. This is one of the primary reasons why the farmers in Taiwan are older. A similar situation is evident in other Asian countries, such as Japan. Since this topic is beyond our scope, we do not address this issue in this paper. However, to accommodate your suggestion, the average age of the insurants in the FHI is now provided in the footnote of Table 2.

5. On page 12, doesn't the odds ratio of 1.64 mean *more* likely to receive payments, or am I misreading this?

**Response:** Thank you for your careful review of our paper. The type has been corrected.

6. On page 14, to me, the most interesting aspect of the paper is the role of the “NHI” variable. Could the authors provide some interpretation into why this variable appears to induce more disability claims? Also, I think the “Discussion section” might benefit from more policy discussion. For example, how can Taiwan policymakers use the results of this paper to, say, ease strain on the national budget?

**Response:** The introduction of the NHI actually decreases the disability claims. The
criteria for receiving a diagnosis certificate of disability became stricter after the introduction of the NHI in 1995 because insured persons eligible for disability benefits had to receive a diagnosis certificate of permanent disablement from the NHI-contracted institutions. The discussion can be found on page 10. We also have some discussion of the effects of the NHI on the received payments in the discussion.

7. Small point: The paper needs a close proofreading to eliminate a few grammatical errors.

Response: We have asked a professional English editor to proofread our paper.

8. Discretionary Revisions: On Page 13, my guess is that disability payments are log-normally distributed, rather than normally distributed. If this is true, then the results in Table 3 might be sensitive to outliers (i.e., individuals who received large payments). A way to correct this would be to take the natural logarithm of the left-hand-side variable, and then the coefficients would be interpreted as percentage impacts on payments, rather than actual dollars. I am not suggesting that the authors make this change, because I like that Table 3 gives results in actual dollars. But it might be helpful to have a sentence somewhere noting that the results were robust to alternative approaches.

Response: Thank you for your suggestion. We did estimate a log-normal payment equation as suggested, and the results are qualitatively consistent with the actual payment equation. To accommodate your suggestion, we now have added short discussions of this issue on page 15-16.