Data collection methods:

We used a multi-stage random sampling technique with probability proportional to size to identify our final units of observation. More concretely, we first selected three districts (Bora, Adamitullu- Jido-Kombolcha and Arsi Negele) out of the five districts covered by the IBI project. Next, we identified a random sample of kebeles covered by IBI in these three districts. Thirdly, we referred the roaster of each kebele consisting of list of smallholders. In addition, from OIC, we also collected the list of adopters, and the years in which each household was engaged in adoption over the period 2013-2017. Based on the list of adopter and non-adopter households, we randomly selected a total of 1139 households for the survey. From these, 596 households were adopters of IBI while the remaining 543 were non-adopters. We conducted a household survey in 2017. The survey was administered in each kebele about one month prior to the execution of the experiments. We collected data on a wide range of topics including household and village characteristics as well as IBI adoption history. There are two IBI adoption cycles per year that provide coverage for the seedling and flowering stages of crop growth, respectively. We categorized households who adopted IBI during the first 3 adoption cycles as early adopters, and those who joined the adoption process during the last 3 cycles as late adopters. Similarly, we considered households who dropped the adoption for at least 3 cycles as dropouts, and those who did not dropout for more than 3 cycles as persistent adopters. Accordingly, from the total adopters, 187 households were late adopters, 260 households were dropouts and 149 households were persistent adopters.

We used multiple price list (MPL) protocols to elicit risk and ambiguity aversion. We conducted incentivized lab-in-the-field experiments to separately elicit risk and ambiguity aversion attitudes of the smallholders. All households who participated in the survey were invited for personal gains from the experiments or the payoffs made to participants. Such explanation was meant to minimize the extent to which participants might assume that the experimenters would benefit if respondents earned less. The ambiguity experiment involves choosing from a risky option

experiment sessions were undertaken at the Farmers’ Training Centre (FTC) in each kebele. In each session, respondents were introduced with the purpose of the experiments. We explained the opportunities for respondents to keep their winnings from the experimental games and to receive payments for show-up. Enumerators explained at the outset that payoffs for the experiments were part of a research grant from a project, and that individuals running the experiment received no 8

14 with 50−50 probability, and an ambiguous option with unknown probability. All respondents started with playing the ambiguity game before the risk game to avoid anchoring similar to the procedures followed in previous studies (Holt and Laury 2002, Ross et al. 2010, Barham et al. 2014). The risk experiment involves choosing from a safe option (100% sure) and a risky option with 50−50 probability. With slight modification, this design is similar to the protocols used in many studies (Binswanger 1980, Holt and Laury 2002, Brick et al. 2012).

effects1. The ambiguity game consists of 11 decisions (see the details in Appendix A). There were two bags to play the ambiguity game: bag I for the risky option and bag II for the ambiguous option. Each bag contains 10 pens, some of which were blue and some of which were red. The win or loss in the ambiguity game depends on whether the respondent draws a blue or red pen. For each of the 11 decisions, drawing a blue pen resulted in a gain of ETB 20, while drawing a red pen awards nothing.

Second, respondents played the risk game. The risk game also consists of 11 decisions. Each decision was a choice between two lotteries: Lottery A with a sure payoff and lottery B, a risky payoff with 50−50 probability. The risky option of the risk game was played by flipping a coin by the respondents.

Respondents had to make their decisions without any prior information about the number of blue and red pens in the ambiguity bag. Respondents were confronted with varying enumerators. Moreover, the proportion of blue and red pens in Bag II differed for each participant. After all respondents made the 11 decisions, they were asked to draw one card from another bag containing 11 cards, serially numbered 1 to 11, in order to determine the payout for the ambiguity game. The payoff was determined as follows. For instance, consider a respondent who draws card No. 7 in the ambiguity game. Then, we refer the colour of the pen that this respondent has drawn in decision 7. If s(he) has drawn the blue pen, we pay the respondent Birr 20. But if s(he) has chosen the red pen, we pay him/her nothing. As the probabilities for the risk game are much more explicitly known than the probabilities in the ambiguity game, respondents may fix their choices to a given row in the risk game and then choose the same row in the ambiguity game, if they are allowed to play the risk game before the ambiguity game. The average payoff per participant including the ETB 15 payment for show-up was about ETB 38.5. This payment was well above the opportunity cost for labour in the area. For example, one full day’s agricultural wage like daily wage from works on floriculture farm (a known daily work in the area) was approximately ETB 50. All the 1139 households have taken part in the experiments. A total of 13 enumerators and one coordinator have worked for about 30 days to conduct the experiments. Similar to the ambiguity game, after respondents made the 11 decisions, they were asked to draw one card from a bag containing 11 cards, serially numbered 1 to 11. The card number drawn was considered for the final payment of the respondent for the risk game. That means, corresponding to the card number that each respondent draws, we see their choice. If the respondent has chosen the safe option, we pay the respondent the amount of the safe option. Each participant is asked to carefully think over and decide their choices.

The two experiments together have approximately taken about 21⁄2 hours per respondent. Our experiments were scheduled after typical morning farm activities.