Learning Journey

International Center for Agricultural and Rural Development (ICARD)

Piloting an innovative design for agricultural insurance: Can we relax liquidity constraints in microinsurance demand?

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About the project

The overall objective of the project was to introduce an effective, commercially viable swine insurance scheme for smallholder swine farmers in a poor western province of China. Farmer demand for insurance is often low, even when premiums are heavily subsidized. Liquidity constraints and lack of trust in insurance providers play an important role in low take-up of micro-insurance in developing countries. The project is testing an alternative premium collection method, which allows farmers to defer premium payment until the end of their insured period. Farmers who enrolled in the pilot program were given an insurance voucher which showed that they had the swine insurance. The design ensured that farmers could still benefit from insurance despite the liquidity constraints they faced. A randomized field experiment was conducted to test the effectiveness of the design in the context of swine insurance in China.

Project Summary

Project Name: Piloting an innovative design for agricultural insurance: Can we relax liquidity constraints in microinsurance demand?
Project Start Date: August 2010
Duration: 24 months
Status: Completed
Country: China
Product: Agriculture and Livestock - Indemnity-Based Livestock
Project Updates

Key Indicators

The project took place between August 2010 and July 2012. The experiment using the voucher mechanism began in June 2011. A total of 1,684 respondents were included in the baseline study, of which 488 received the voucher allowing them to postpone the premium payment until the end of the insurance period. The results suggest a strong increase in take-up as a result of receiving the voucher. Households with the voucher were 11 per cent more likely to purchase insurance than those without it.

What is happening?

As of August 2010
Researchers started to define the theoretical framework, the design of the experiment, the voucher mechanism, and the sampling methods.

As of December 2010
The baseline survey was conducted by six teams who were previously trained in the actual survey sites. From the 32 townships in Zizhong County, 3 were selected for the research: Gongmin, Chonglong, and Ganlu. After that, six villages were randomly selected from each of the three townships. All swine farmers were surveyed in these 18 villages, with a response rate close to 80%. In the end, a total of 1,684 respondents were included in the data.

As of June 2011
The government opened the sales window in June 2011 for insurance policies for swine-raising households and the experiment begun. The baseline sample was divided into three groups: the treatment group, made up of 832 households which received a voucher allowing them to defer payment until the end of the insurance period; control group 1, made up of 488 households which did not receive a voucher but were informed about the possibility of buying the insurance; and control group 2, made up of 364 households which did not get any voucher or instruction. The use of these two control groups made it possible to eliminate the possibility of an information effect.

As of December 2011
The follow-up survey was conducted. Since a significant number of farmers quit swine farming and others left the townships, a total of 1,146 questionnaires were completed.

As of August 2012
The final report with the main activities, outcomes and conclusions of the project was delivered.
Project Lessons

On the main determinants of demand for insurance

Liquidity constraints have a negative influence on the demand for swine insurance. With usual up-front premium payments, the fact that credit is not available to purchase insurance may reduce insurance take-up. Liquidity constraints affect demand for all insurance products, but can be even more problematic for farmers as premiums must usually be paid at the same time that other inputs are bought, and sometimes just a few months after a shock. Out of the 1,684 farmers interviewed in Zizhong County during the baseline survey in December 2010, 53 per cent responded they would not be able to raise 5,000 Chinese renminbi (US$ 850) in a short period of time, and 75 per cent expressed their preference for an insurance plan with premium payments at the end of the insurance period.

A high perceived probability of insurer default may also affect demand for insurance. The perception that insurers might not pay claims even after premiums have been paid may also decrease demand. Despite the fact that only 4 per cent of households who lost their pigs complained that the insurance company refused to repay, farmers over-estimate default rates: only 26 per cent of the households in the baseline survey thought the insurance company would not default. Due to low levels of trust and unfamiliarity with formal financial institutions, the perceived probability that insurance companies will not pay claims can be quite high in rural areas in developing countries.

The lack of appropriate insurance products is also relevant in explaining low demand for insurance. An insurance period that does not coincide with many farmers’ fattening cycle, the size of the deductible and of the guarantee, and the length of the settlement were reported as other aspects which reduced demand for insurance. This shows a need for more tailored products adapted to the real needs of the target group.

See more on relevant theory at: http://www.ifpri.org/sites/default/files/publications/ifpridp01174.pdf

On the effect of deferred payment on demand

Providing farmers with the opportunity to defer premium payment until the end of the insured period can increase the demand for insurance. In the experiment conducted during the project, farmers from the treatment group who received a voucher allowing them to delay premium payment (with an interest charge) until after they had sold their livestock were 11 per cent more likely to purchase insurance than those that did not receive the voucher. Take-up rate was 16 per cent among farmers with vouchers, and 5 per cent among those without them. Since the study controls for a possible information effect, the results indicate that allowing farmers to pay the insurance premium later in the insured period indeed increases demand, perhaps partly as a result of liquidity constraints, and partly as a result of trust. More information will soon be available as part of the Facility’s Research Paper series.

The size of the herd may influence a farmer’s decision to get insured. The experiment shows that larger swine-raising farmers were more responsive to the voucher. This may be because a greater share of their household income and family wealth came from swine raising, and because they were more likely to have less money available at the time of purchasing the policy, as a result of spending more on inputs for swine raising.
Flexible premium payment plans may provide part of the solution for low insurance rates among farmers, but they are not a silver bullet. Even if the voucher mechanism increased demand, overall it still remains quite low. The persistent low demand for insurance indicates that liquidity and trust are not the only constraints to insurance take-up. The response to the demand problem should be based on a more holistic approach, which should include adjusting the value proposition to target group needs and overcoming behavioral constraints (things that prevent farmers translating their intentions to buy insurance into actually doing so).

On the effect of deferred payment on premium payment defaults

Deferring premium payments does not increase premium payment defaulting rates. A potential problem with delayed premium payment is that farmers might not pay if the insured event does not occur. A livestock producer insuring animals against death who subsequently experiences no deaths may be reluctant to make the premium payment. As evidenced by the high payment rates observed in the experiment, this was not a concern in the Zizhong County context. The fact that more than 95 per cent of insured households who did not suffer a loss repaid the premium on time suggests that the higher demand was not driven by the illusion of free insurance. High rates of payment can be linked to the high perceived costs of defaulting, such as exclusion from future insurance schemes as well as from other government-supported programs. This is especially true in China, where the government is actively involved in agricultural production and in insurance provision.

On the suggested improvements to swine insurance in China

Adapting the insurance terms to the needs of local farmers can improve swine insurance and encourage producers to commit to a contract. Swine farmers have different perceptions and needs. A product that suits larger farmers may not be adequate for smaller ones, for example. Therefore, adapting product features to different target groups may enhance farmers’ willingness to pay for insurance and improve the quality of the product itself.

Increasing farmers’ trust in insurance companies can increase their willingness to pay for the product. A study supported by ICARD showed that farmers were willing to pay less for insurance if they did not trust the insurance companies or at least maintained a neutral standing regarding them. Establishing a more positive image of insurance companies among producers can be an important step in increasing insurance take-up by farmers. Find out more in Research Paper #28.

On replication in other contexts

Identifying local specificities is vital before replicating the Chinese experience to other contexts. A successful experience in the Zizhong County may not experience the same level of success if transposed to another place in the same format. It may be the case that liquidity and insurers’ default are not constraints faced by swine farmers in other regions, or that the government is not as present in insurance and the agriculture value chain outside the Chinese context (making it difficult to enforce deferred premium payment). Therefore, identifying local challenges and dynamics is the first step before replicating insights from this project in other settings.