Institutions and Experiments

Máximo Torero and Angelino Viceisza

International Food Policy Research Institute

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Background

- Part of the project's purpose
  - Pro-poor policy options for HPAI control.
- Purpose of module 7 *"Management of Institutions"*
  - Conduct targeted trials to test the efficacy of different designs of interventions or combinations of interventions that build upon the experience in HPAI control to date.
  - These tests will include the potential impact of these *innovative* approaches as well as potential necessary adjustments to make them effective when implemented on a large scale in the field.
- Limitations and how to remedy them
  - The trials will have a relatively small scale.
  - So, it is important to learn from previous experiences and validate those interventions that have been most successful (i.e., best practices in control of HPAI).
  - It is also important to identify generic behavioral responses that will be induced by an occurrence of HPAI (i.e., an uncertain shock).

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Why conduct behavior-based experiments? (1)

- HPAI is by its nature an epidemiological issue. In particular, the project's main focus is on bird-to-bird transmission.
- So, why study human behavior with respect to bird-to-bird transmission of HPAI?
  - Farmers may incorrectly report HPAI if incorrect incentives are in place.
  - Governments may promise to compensate, but "renege".
  - Governments may not have the institutional capacities to handle these problems at the level of small holders (e.g., monitoring may be too costly). So, self-enforcing mechanisms may be necessary.
- In other words, the decision to report depends crucially on two things: (1) farmers' preferences and (2) the institutions that are in place. *This is where experiments can truly serve a purpose.*
- Namely, experiments by their very nature are intended to study behavioral response as an interaction between preferences and institutions.

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Why conduct behavior-based experiments? (2)

- The main experiments will be small-scale trials that will inform the design of large-scale field implementations.
- Role for small-scale trials
  - Test farmers' "risk attitudes" and how this might affect "willingess to report".
  - Test farmers' "rates of time preference" and how this might affect "willingness/velocity to report".
  - Test farmers' "trust attitudes" towards governments to follow through on compensation and how this might affect "willingness to report".
  - Test farmers' "willingness to report" occurrence of HPAI.
  - Test alternative institutional arrangements that may induce increased reporting (reward structures, monitoring etc.)
- Our main aim is to improve the design of existing mechanisms and propose designs for innovative mechanisms. Some of these mechanisms may be implemented on a pilot basis.

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Methodology

- Conduct pre-experiment surveys to collect data on:
  - General demographics (individuals and households)
  - Attitudes towards reporting, risk, trust and time preferences
  - Existing institutions for controlling HPAI and lessons learned (both from farmer and government perspective).
- Use the data from these pre-experiment surveys to inform the nature and design of the small-scale trials.
- Conduct small-scale trials. These will use simple games to:
  - Measure actual preferences for demand-revealing (i.e. reporting), risk, trust and intertemporal choices.
  - Measure effects of alternative institutional arrangements on behavior (holding preferences constant).
- Use the data from these small-scale trials in conjunction with those from the pre-experiment surveys to improve the design of existing and new mechanisms in high-risk areas.
- Note that we may not implement actual large-scale field experiments. We will propose new designs and improvements of existing designs.

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Experiments and Surveys

- It is important to understand that experiments and surveys are complements rather than substitutes.
- Pre-experiment surveys can be informative for experimental design.
  - In particular, our surveys will collect information on previous outbreaks. From these we will learn successes of implemented policies, which in turn will inform behavioral issues that need to be tested in our experiments.
  - Surveys will also provide detailed information on subjects. This is extremely important, since the experimental design needs to control for all potential differences between farmers a priori if we want to claim true treatment effects ex post.
- Furthermore, post-experiment surveys can be informative in how one moves forward.

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What Next...

- Next, we shall discuss two examples of field experiments that could be implemented on a pilot basis and how the small-scale trials will be informative towards their design and implementation.
- Note that these are *potential* experiments. The exact choice of experiments and their design will depend on what we learn from (1) other modules (in particular, module 5), (2) pre-experiment surveys and (3) the small-scale trials.

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Example 1: Group Reporting

- Background: A main problem for governments is monitoring of smallholder poultry.
- A potential mechanism to lower cost of monitoring is to have compensation depend on group reporting.
- Statistics indicate that a large percentage of affected poultry occur in the same geographical area.
- Given this statistic, one might want to use proximity to institute a non-costly way for farmers to monitor themselves.
- E.g., one could commit–within a time frame–to compensate farmers at a price that is substantially higher than a given reservation price if more than a given percentage report. If not, only those who report get compensated at a price similar to the reservation price and all birds in the region are culled.
- Furthermore, since "time to reporting" and "time to culling" are both important for successful implementation of such mechanism, one might want to make reporting conditional on how quickly *real* cases are reported, i.e. velocity to report.

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Example 1: Group Reporting (continued)

- Several questions arise
  - What is the above "reservation price" and how does it depend on risk etc.? This is a "preference" question.
  - What is the optimal incentive structure? This is an "institutional" question.
    - How much should farmers be rewarded to achieve timely and accurate reporting?
    - Should they be punished monetarily for reporting inaccurately?
  - What are the effects of different outside options on farmers' reporting behavior? This is an "institutional" question.
- This is where experiments can be useful. In particular, the small-scale trials will enable us to study the above questions under several different parameterizations at relatively low cost. We can then carefully identify generic behavioral responses. These behavioral responses (which are an interaction of preferences and institutions) will inform us how to design/improve new/existing reporting mechanisms.

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Example 1: Group Reporting (continued)

- Potential caveats to large-scale implementation based on small-scale trials. How generalizable are the results?
  - This mechanism will be particularly effective if the outside options for farmers are limited. Outside options can be exogenously limited by providing incentives for the "buyer side" to report suspicious poultry. This can–but need not be–an exact object of study in the small-scale trials.
  - This mechanism requires reserved funding that can quickly be disbursed to farmers. Where will this funding come from? To what extent can/will international and national non-governmental donors allocate special funding?
  - This mechanism assumes that farmers are sufficiently informed to diagnose HPAI. This can be controlled in a stylistic environment. When implementing in the field, large informational sessions may be necessary to help farmers understand symptoms of HPAI.
  - This mechanism assumes that farmers have easy ways of reporting HPAI. Are there technologies that facilitate reporting? This also can be controlled in a stylistic environment. In the field, additional infrastructure and informational sessions may be necessary.

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Example 2: Social Marketing and Reporting

- Note: This idea was proposed during the SC meetings.
- Background: A main social problem is that smallholders may be insufficiently informed with respect to several aspects of HPAI such as diagnosis, consequences if reported versus not.
- Social marketing could be a potential solution of interest. It would be aimed at national and regional campaigns to raise informational awareness and understanding of HPAI. One could imagine a large-scale field experiment framed as a campaign called *"Report!"*
- However, before such experiment can be implemented, a few questions must be addressed.
- Suppose we gain a solid view of informational awareness and understanding among farmer populations through pre-experiment surveys. Then, several questions can be addressed by small-scale trials as discussed next.

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Example 2: Social Marketing and Reporting (continued)

- What type of information should be presented to induce behavioral change?
- How should information be framed to induce behavioral change?
- Is information more effective if disbursed through informal channels (e.g, social networks) versus formal channels (e.g., government NGOs)?
- What are farmers' trade-offs of common resource (good) versus private resource (good)?
- Can informational awareness instigate a level of social norms among the farmer population?
- Does information have a different effect on farmer populations that have a different social history (e.g., pre- versus post-HPAI)? This relates to the question *how does the effect of information differ with "trust attitudes"*?
- Careful scrutiny should be done when proposing designs of large-scale field experiments.

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Why conduct behavior-based experiments? A final why?

- DFID's views (based on Bazeley's talk)
  - Incentives and institutional economics.
- Steering committee comments
  - The question was raised to what extent the project would address control measures *beyond* the more traditional ones.
- The experiments will in part address these comments. In particular, they will:
  - Propose *innovative* approaches to control HPAI by testing adequate reporting mechanisms informed by farmers' actual behavior.
  - Propose pro-poor reporting mechanisms by studying farmers' preferences.
  - Propose institutions that are necessary to support a successful implementation of these innovative approaches such as special funding for compensation, monitoring, mechanisms for increased ease of reporting (i.e., technology) and so on.

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- Study farmers' attitudes towards risk, intertemporality, trust by means of pre-experiment surveys.
- Study control measures in countries where HPAI has occurred (module 5) to identify best practices. This will be supported by pre-experiment surveys and literature reviews.
- Based on the above, design and implement small-scale trials with representative samples of respective populations.
- Analyze the data and use these results of these trials to inform design of large-scale field experiments.
- Implement these large-scale mechanisms.
- Conduct post-experiment surveys and assess impacts of proposed mechanisms.
- Throughout: Inform and update national and international stakeholders accordingly.

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