

# Discussion

## “Under-investment in Profitable Technologies when Experimentation is Costly”

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## 1 Summary

## 2 Overall impression

## 3 Comments

- Minor
- Less minor 1
- Less minor 2
- Less minor 3

- This project uses a randomized field experiment to test the impact of migration on household welfare
- It finds large causal benefits to migration, which in turn proposes a puzzle:
  - If migration is so beneficial, why is it that households fail to do it in absence of the intervention?
- The project proposes and tests several theories that might explain the (non)-migration decision.
  - The data seem to be most consistent with a rational model in which people are uncertain about their own return to migration, and don't experiment out of fear of a low-probability catastrophic event.
  - The most competing model is one in which people don't experiment due to lack of financial ability.
- Which of these models is applicable has implications for how one designs policy. In particular, if the former model is applicable, one should design the policy instrument as some type of insurance that hedges against the low probability catastrophic event (i.e., unsuccessful migration). New experiments are being designed.

- I like the idea behind the paper: “randomly induced migration”.
- It’s cute, it has appeal and it has potential policy implications.
- The experiments seem carefully designed.
- As far as I can tell, there’s not much reason for suspecting spill-overs across treatments due to perverse incentives. To the extent that there may be, I mainly think such effects would work to make the treatment effects stronger.
- I applaud this work for its effort (as well as output). But in particular effort, since I cannot imagine that these experiments (and accompanying surveys) were easy to implement.
- I also like that new experiments are being designed to test additional hypotheses—in particular, to see which policy instrument works best (related to Deaton, 2010). In an experimental world, one should mainly resort to additional treatments as opposed to interactions of existing treatments with covariates.

- I assume randomization “worked”; at least, judging from balance on observables? I did not see this in the presentation. In particular, I wonder with regard to risk/time preferences and expectations of households (more below).
- When you look at the effects of learning and you say “based on expectations”, do you mean based on “expectations” or self-perception/reports? I am not quite clear on this.
  - To the extent that these are expectations, how was this data collected? Was the instrument incentivized?
- I am missing an attrition discussion. I assume there must be some.
- I would be cautious not to overclaim the long-run effects of the intervention—there may be a decay back to initial levels. The good thing is that you are doing additional rounds to be able to test this. I think the question of sustainability/persistence is an important one.
- To what extent are some effects driven by “enumerators” (project coordinators of NGOs) who in practicality are the “experimenters”? I.e., is there orthogonality between set of enumerators and treatment villages and/or treatment households (for within-village randomization)? What were the incentives for them?

- The two competing models you propose essentially can be seen as one of preferences (uncertainty over payoffs) and one of constraints (credit/liquidity). A few claims in this regard:
  - Many say that in developing countries, typically constraints drive behavior. Furthermore, preferences and constraints interact and thus are intertwined. To what extent can they be separated without specific experimental treatments designed to test them?
  - To the extent that you would like to flush out the first model further, I think risk and time preferences can play a bigger role than they currently do. I.e., I would be interested to see the graphs for “who chooses to migrate” done for different risk/time profiles and also according to subjective expectations (beliefs elicited in an incentive compatible manner).
  - To the extent that the more risk averse are more likely to migrate in the presence of your treatment, controlling for initial wealth/liquidity/credit conditions, perhaps this could be an additional test. This also relates to ambiguity aversion and technology adoption literature (e.g., Escobal et al. 2007). We could think of more complicated models of choice under uncertainty that provided the data exist could be tested.

- I am also not quite ready to give up on information. I understand that information does not give effects across treatments in your setup. However, the type/framing of information may matter. For example, suppose you tell subjects that last year those who migrated on average achieved X% higher income through filmed testimonials of others. Will information framed in this manner matter?
- I have social history treatments implemented in lab-like experiments (e.g., Berg et al. 1995, Hill et al. 2010) as well as aspiration-based experiments in mind when I say this (e.g., Bernard and Seyoum-Tafesse 2010).
- In particular, claiming that a rational subject should make a given decision relies on certain assumptions. In particular, the subject should perceive the world as the experimenter does. It could be that the information provided was not complete in the subjects' eyes.
- Since new experiments are being designed, perhaps this is worth exploring. The reason why information is interesting is because it's typically relatively cheap to disseminate.

- Policy implications 1: What are the general equilibrium effects of this? I.e., if we send a substantial number of workers to urban areas, what happens to wages, overall welfare etc. To what extent is it sustainable?
- Policy implications 2: I would be cautious in suggesting insurance as a policy instrument since insurance in itself is a new technology that has recently been shown to have low take-up (e.g., Cole et al. 2009). So, perhaps you have mandatory schemes?
- Policy implications 3: To what extent do you think these findings would generalize across cultures, religions, borders and religions? I could envision that most of it does, but it would be interesting to know if you see any complications.