

# ***Behavioral Economics Forum: Introduction***

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# Behavioral Change & Behavioral Economics

- As Dean has indicated, our collective efforts as development professionals is to enable behavioral change by relaxing constraints that limit the ability of families and economies to get on a pathway of resilient and sustainable development
- The BASIS Markets, Risk & Resilience Lab is a consortium of researchers who innovate new approaches and provide evidence on the efficacy of our collective efforts
- For many economists, a first approximation to how people choose whether or not to, say, invest in their future looks like this dynamic optimization problem:

$$\max_{c_{it}, S_{it}, I_{it}} u(c_0) + \sum_{t=1}^H \beta(t) E_{\theta} [u(c_{it})]$$

*subject to :*

$$c_0 \leq W_0 + A_0 - S_0 - I_0$$

$$c_{it} \leq \rho(A_{it}, \theta_{it} | \alpha_i) + (1 + r)S_{it-1} - S_{it} - I_{it}, \forall t > 0$$

$$A_{it} = (1 - \delta)A_{it-1} + I_{it-1}$$

$$0 \leq S_{it}, A_{it}$$

# Behavioral Change & Behavioral Economics

- Embedded in that dynamic problem is a way to think about what we value and strive for, how we value present versus future consumption, how we evaluate risk-taking, etc.
- Even those of us who do not think in such a stylized way often work with some notion that people respond to reduced constraints in a predictable way in order to enhance their economic well-being
- While these stylized ways of thinking about behavior and behavioral change can help us focus on interventions that might work, what is called behavioral economics uses experiments to challenge many of the core precepts that underlie stylized thinking like that represented in that dynamic optimization problem on the prior slide
- As we will see in this workshop, behavioral economic's empirically grounded perspectives on people behave can offer novel insights—sometimes simple, sometimes subtle—on how to better effectuate behavioral change
- Let's first look at some general areas where behavioral economics has offered important insights

# Domains of Behavioral Economic Insight

## *What Women & Men Want*

- Standard model is that preferences are fixed (independent of constraints) and largely selfish
- Behavioral work shows that preferences:
  - Depend on the constraints we face (we learn not to want what we are unlikely to achieve);
  - Are social shaped by our neighbors (geographic *and* shared identity neighbors);
  - Can be non-selfish and pro-social in important ways
- We will examine what these behavioral perspectives mean for effective behavioral change

## *Sacrificing Consumption Now for Consumption Later*

- Standard model assumes that people do not ignore the future, do not procrastinate and are not present-biased;
- Behavioral work shows that:
  - Many of us are time inconsistent and present biased;
  - Time inconsistency may be endogenous to “gloomy” circumstances
- We will discuss implications of these behavioral insights for facilitating investment & behavioral change

# Domains of Behavioral Economic Insight

## *Decisionmaking under Risk*

- Standard model assumes that people follow the hyper-rationality of the expected utility approach illustrated earlier (evaluate options using a smooth utility function; reduce compound lotteries to the corresponding simple lotteries; use objective probabilities)
- Behavioral economics reveals multiple violations of the standard model, including
  - Exhibit ambiguity aversion when confronted by complex events;
  - Under and overweight the likelihood of events relative to their objective probabilities;
  - Treat gains and losses differently
- Can a better understanding of how we process risk lead to the design of better risk management instruments that will allow people to prudentially take risks and invest in their futures?

## *Internal or Psycho-social Constraints*

- Standard model takes an engineering approach, assuming that capabilities are fixed as are our understanding of the technology that transform capabilities into income
- Behavioral work reveals that psychology matters and that
  - Some may systematically understate their potential efficacy and ability to shape their future;
  - Internalize social norms or beliefs about we can do based on socially ascribed identities
  - These beliefs are malleable, changing in response to events & shocks
- What evidence do we have that these constraints can be relaxed to open up possibilities & change?

# Workshop Agenda

Workshop will take three deep dives into areas where there is evidence that behavioral economics offers actionable insights:

1. *Limited Attention & Complexity: Behavioral Insights to Encourage Savings and Investment in Improved Agricultural Technologies (Tuesday, 10:30-12)*
  - Panel Leader: Rachid Laajaj (Los Andes)
  - Panel Members: Lauren Bergquist (Yale) & Andrew Dillon (Northwestern)
2. *Decisionmaking in the Face of Risk & Uncertainty: Designing Insurance Contracts to Improve Well-being and Technology Adoption (Wednesday, 8:30-10)*
  - Panel Leader: Michael Carter (California, Davis)
  - Panel Members: Karlijn Morsink (Utrecht) & Glenn Harrison (Georgia State)
3. *Aspirations, Agency & Mental Health: Strategies for Addressing Psychosocial Constraints in Poverty Reduction (Wednesday, 10:30-12)*
  - Panel Leader: Catherine Thomas (Michigan)
  - Panel Members: Nathan Jensen (Edinburgh) & Andrés Moya (Los Andes)

To give us a sense of what is to come, each panel leader will give a brief introduction to key messages from their panel

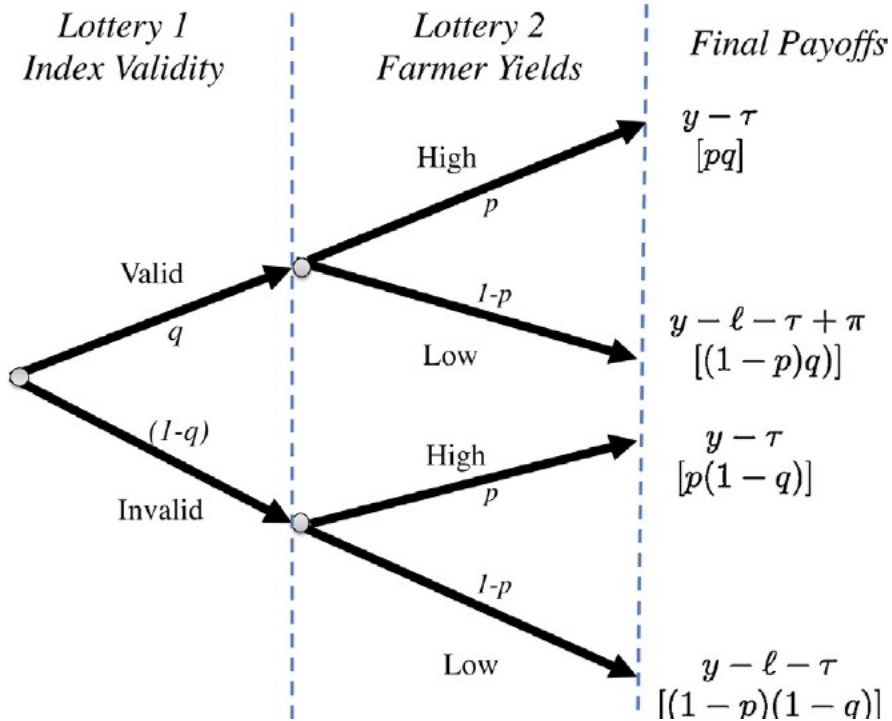
# Over Now to Rachid

# *Designing Insurance Contracts to Improve Well-being & Investment by Small-scale Farmers & Herders*

- Evidence that uninsured risk is very costly led the BASIS/MRR Lab to begin working on indexed financial products that promised to allow farmers to manage risk at lower cost, freeing up funds for investment
- Perhaps led astray by a standard classroom homework problem (“prove that a risk averse expected utility maximizer will always be better off purchasing actuarially fair insurance, assuming”), many of us were perhaps surprised that these new financial instruments often met with tepid demand and consequently had at best modest impacts
- While there are a multiplicity of reasons for this modest demand (discuss these more tomorrow), researchers also recognized that a number of classical behavioral experiments routinely reveal that people violate the presumptions of expected utility theory
- This recognition led to two interrelated observations:
  - Might be possible to craft insurance contracts that better resonate with how many of us think about risk
  - Insurance is a complex product and maybe not everyone should be buying it, implying that there may be ethical ambiguities to peddling insurance



# Behaviorally-compliant Contract Design

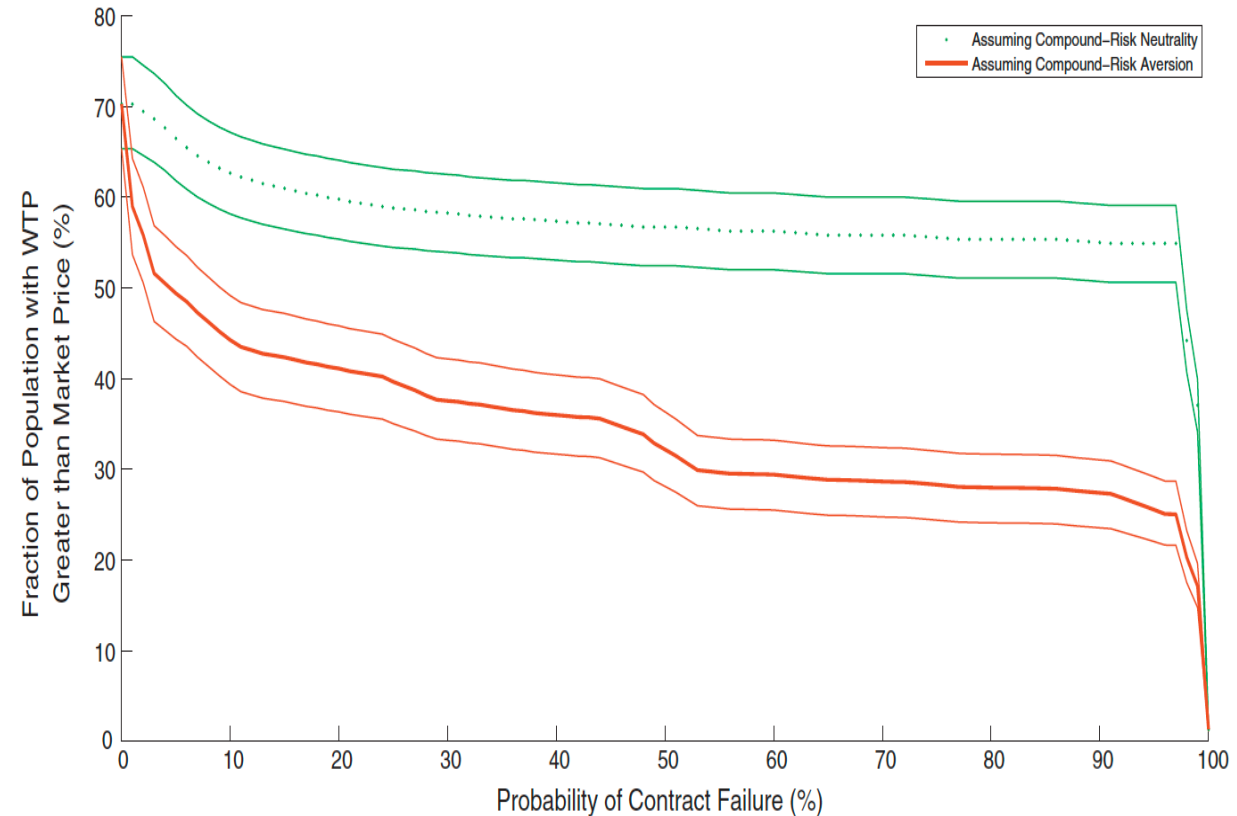


- Index Insurance appears to the farmer as a complex “compound lottery
- Not only does the farmer have to worry about mother nature’s lottery (good year versus bad year), she also has to worry about the index insurance lottery (will the index correctly reflect what mother nature did)
- While the compound lottery can be reduced to a simple lottery, in a famous behavioral experiment, Daniel Ellsberg (yes, that Daniel Ellsberg) show that many of us are averse to compound lotteries and the ambiguity they imply
- So might aversion to compound lotteries explain the tepid demand for index insurance

Elabed, G. and M.R. Carter (2015). “Compound Risk Aversion, Ambiguity and the Willingness to Pay for Microinsurance,” *Journal of Economic Behavior and Organization* 118:150-166.

# Behaviorally-compliant Contract Design

- Behavioral experiments with cotton farmers in Mali showed that a substantial fraction of the population was in fact ambiguity averse
- The diagram to the right shows the fraction of this farming population that would be made better buying insurance as a function of the favorableness of the index insurance lottery
- The lower, red line shows that the fraction of the population that would be expected to benefit from and buy insurance collapses rapidly as the reliability of the index (the faithfulness with which it reflects mother nature) worsens
- Suggests that contract design needs to prioritize contract reliability
- This was done in Mali with a 2-trigger contract, and RCT evidence shows substantial investment impacts of insurance
- Moreover, even ignoring ambiguity, we can see that even index insurance is not for everyone as it is not actuarially fair and it is failure prone



# Further Behavioral Economic Lessons for Index Insurance

- Stepping back, this perspective illustrates that index insurance is complex and will not improve the well-being of everyone.
- Two implications flow from these observations
- First, people may benefit with contractual advice that is tailor-made to their risk preferences and belief
  - Karlijn Morsink will tomorrow show results from an effort in Ethiopia to do exactly that; Namely she tests the impact of providing pastoralists tailor made advice on whether or not to purchase insurance
- Second, unlike, say, washing your hands, insurance is not unambiguously good for everyone
  - Glenn Harrison will tomorrow warn us about the ethical dangers of relentlessly promoting index insurance
  - Some of his own behavioral experiments show that “nudges” and other marketing tricks derived from behavioral economics may actually lower the well-being people we otherwise think we intend to help