

# Revisit the Poverty and Decision Making

Insights from the UNHCR survey \*

Chen FANG<sup>†</sup>

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## 1 Motivation

Since March 2025, I have been serving as an Economist Intern with UNHCR Jordan, where I have been extensively involved in the quantitative analysis of the socio-economic characteristics of Syrian refugees residing in the country. During this internship, I became acquainted with the bi-annual survey conducted by UNHCR under the supervision of the World Bank and a team of economists, known as the [Vulnerability Assessment Framework \(VAF\)](#).

The VAF is an inter-agency initiative designed to establish a comprehensive, multi-sectoral framework that supports both humanitarian and development actors. It assesses the living conditions of refugees through representative stratified sampling, covering populations in both camps and host communities. Its detailed questionnaire encompasses multiple dimensions, including hygiene, education, shelter, health, water, and labor market participation. In 2024, the VAF introduced a new climate module, structured around a three-pillar framework of exposure, sensitivity, and adaptive capacity. This methodology enabled the construction of a Climate Vulnerability Index (CVI), calculated at the household level to capture varying degrees of climate-related risk.

Given that my research interests lie in climate economics, I engaged with the VAF working group and identified two notable stylized facts from the first-round results of this module (published in 2024). These findings highlight potential links between households' climate vulnerability levels and their decision-making patterns. <sup>1</sup>.

## 2 Stylized Fact 1: Risk Attitude

The first one is about the risk attitude, to evaluate this, respondents were asked to complete an experimental risk-taking task borrowed from [Crosetto and Filippin \(2013\)](#). In this task, participants were asked to choose a specific amount out of 100 boxes of monetary value. However, in one box a “thief” is randomly hidden, and accidentally choosing such a box reduces the participants' score in the game.

The results are shown clearly in the Figure 1<sup>2</sup>, three distinct groups emerge: one large risk averse group (collecting very few boxes), one willing to take medium risks (collecting a moderate number of boxes), and a smaller risk-seeking group (collecting a very large number of boxes). When correlate risk-seeking with overall CVI, refugees in the “Emergency” group (the most climate-vulnerable here, but can also be roughly understood as the poorest group in this mini-paper) are concentrated in the extremely risk-averse group, which seems correspond to the general conclusion that socio-economic vulnerability is associated with more risk-averse behavior [Haushofer and Fehr \(2014\)](#).

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\*This is the mini paper for the class *The Situated Decision Maker* provided by Prof. [Chew Soo Hong](#).

<sup>†</sup>School of Economics and Management, Tsinghua University. Email: [fangc23@mails.tsinghua.edu.cn](mailto:fangc23@mails.tsinghua.edu.cn)

<sup>1</sup>For further details, see the published reports for refugees residing [communities](#) and [camps](#).

<sup>2</sup>I only present the results in host community in this mini-paper, the results in camp show similar pattern as host community. The source of Figure 1 and 2 is the VAF Climate Vulnerability Index technical summary report produced by ISDC (International Security and Development Center).

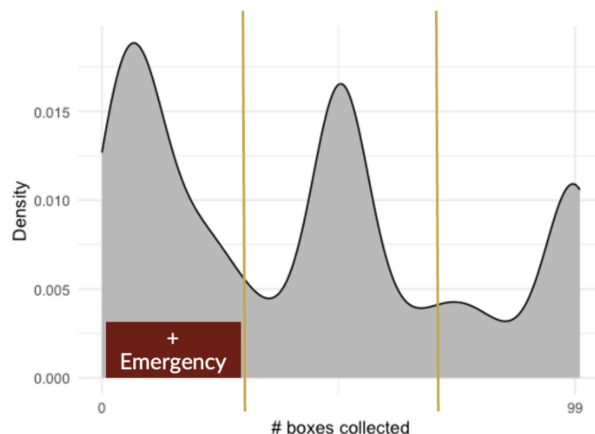


Figure 1: Distribution of Risk Preference in Host Communities

*Notes:* This figure presents the distribution of the collected boxes among the respondents. The x-axis shows the number of collected boxes (from 0 to 100), the y-axis shows the density for each x.

### 3 Stylized Fact 2: Inter-temporal Preferences

To study intertemporal preferences, the team asked respondents how much, in comparison to others, are they willing to give up something today in order to benefit from that in the future. Three groups of individuals emerge in terms of intertemporal preferences. While a large proportion of respondents among refugees in host communities are either very willing to sacrifice something today for future benefits or are very reluctant to do so, there is also a sizable group that is in between but tends to be less willing (see Figure 2).

Based on the results, their hypothesis was that refugees who are more present oriented are also the one who are on average more vulnerable and more likely to fall into the emergency category.

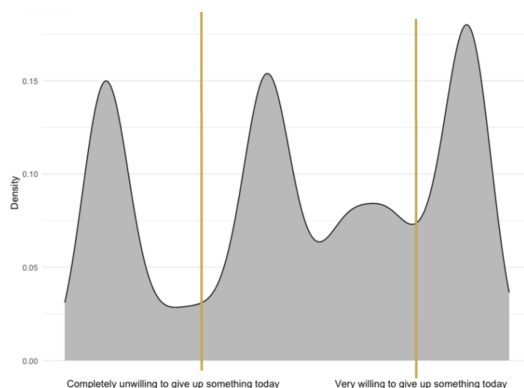


Figure 2: Distribution of Intertemporal Preferences in Host Communities

*Notes:* This figure presents the distribution of intertemporal preferences among the respondents residing in host communities.

### 4 The Bias and Potential Solutions

When I attended this course, the two stylized facts resurfaced in my mind. In the first lecture, Professor Chew underscored that the central concept to be internalized is “situatedness”. Decision-making processes are inherently context-dependent, which helps explain seemingly irrational behavioral patterns or the presence of self-contradictory revealed preferences.

Drawing on both my discussion with Professor Chew and the insights shared during the lectures, I intend to revisit these two stylized facts through the lens of “situated” decision-making. This perspective, rooted in the

frontier of behavioral economics, will also allow me to critically assess and summarize potential biases embedded in the earlier analysis.

## 4.1 Biased Understanding and Response

Discussions with colleagues at UNHCR highlighted a major challenge in administering this module: it is difficult to convey the necessary context and background to refugee respondents, many of whom have limited literacy and knowledge due to disrupted or incomplete formal education. An additional concern is the placement of the climate module at the end of the questionnaire, when respondent fatigue reduces patience and concentration. Faced with complex tasks at this stage, many respondents appear to rely on fast, intuitive thinking rather than slow, deliberative reasoning (Kahneman, 2011), often providing quick heuristic responses clustered around the midpoint option of 50 boxes. This limited attention and reduced cognitive engagement not only hinder their ability to uncover the underlying decision-making mechanisms but also generate comparability issues between respondents who answer in a fast-thinking versus a slow-thinking mode. The resulting bias is evident in the pronounced density peak around the 50-box response.

A potential remedy is what Professor Chew referred to in class as “不言而教” (hypothetical knowledge). To illustrate this idea, he drew on the vivid analogy of the “六骏” (six workhorses), representing six distinct treatments that can serve as heuristic exercises preceding the formal survey. These preliminary tasks are designed to immerse respondents more fully in the decision context established by the question, encouraging them to engage in deliberative trade-off reasoning and thereby revealing more consistent underlying preferences.

One of these six “workhorses” corresponds to the treatment strategy discussed in Martínez-Marquina et al. (2019), namely the “Buying a Firm” (BAF) task. In this experimental design, researchers leveraged the Power of Certainty (PoC) to enhance respondent performance in the BAF framework. Their findings demonstrate that exposure to hypothetical knowledge reduces decision errors and increases the likelihood of respondents behaving optimally. Analogously, in our setting, researchers could introduce prerequisite questions framed in a simplified context (e.g., involving only 10 boxes in total) as a lead-in to the final choice task. For example, respondents might first be asked to compare the expected payoff between an extreme case (collecting 9 boxes) with an intermediate case (collecting 5 boxes). Such exercises would help activate more strategic thinking prior to eliciting the final determination of box collection, thus improving the reliability and validity of the responses.

## 4.2 Biased Expressions

In the risk-taking game, decision makers are placed in a setting framed as “dangerous”: they are asked to collect as many boxes as possible to achieve a higher score, while simultaneously avoiding the “thief” box containing a “bomb”, which would drastically reduce their payoff. While this framing is engaging and may capture respondents’ attention in psychological experiments, it is less suitable in an economic context where the objective is to elicit true risk attitudes. Under conditions of heightened nervousness and unease, respondents are less likely to engage in deliberate, strategic reasoning, and their choices may be systematically biased away from their underlying preferences.

A more appropriate approach is to reframe the task using neutral and emotionally flat language. For instance, Oprea (2024) propose a tractable and neutral version of a comparable “lottery” game: subjects are told there are 100 boxes, 90 containing \$25 and 10 containing \$0. A subject randomly selects a box and receives its contents. Their choice is between accepting a random box or receiving a certain payoff of \$20 as the certainty equivalent (CE). This description is deliberately plain and free from emotionally charged words, thereby situating respondents in a more objective cognitive environment and allowing them to focus on the trade-off between probabilistic and certain outcomes.

In our setting, a similar adjustment is warranted. Terms such as “bomb” or “thief” should be replaced with neutral descriptors, and the task should be framed directly in terms of the scores or payoffs obtained. The broader lesson here is that psychology and economics emphasize different aspects of the decision-making process: psychology

often leverages emotional salience to stimulate engagement, whereas economics aims to minimize framing effects and potential biases to ensure the reliable elicitation of preferences.

### 4.3 Too Simplified Interpretation

Based on the survey results, the researchers conclude that socio-economic vulnerability is often associated with greater risk aversion and more present-oriented attitudes. However, these correlations are likely influenced by a variety of hidden factors, which deserve more explicit consideration in the interpretation of the findings.

To deepen the analysis, it is important to employ a theoretical framework capable of capturing the mechanisms linking socio-economic status to risk and time preferences. Such a framework is not only valuable for understanding the formation of these behavioral patterns, but also critical for informing interventions aimed at targeted groups—for example, by fostering behavioral change to enhance climate adaptation capacity. One promising approach is the weighted utility model developed by [Chew \(1983\)](#), [Chew et al. \(1987\)](#), [Chew and Epstein \(1989\)](#), [Chew and Ho \(1994\)](#) as an alternative to expected utility theory. This framework extends the expected utility model in a meaningful way, allowing for the incorporation of more complex determinants of risk-taking and intertemporal decision-making. The attention-weighted utility function is expressed as follows:

$$(x_i, p_i) = \sum \left\{ \frac{p_i \alpha(x_i)}{\sum p_j \alpha(x_j)} \right\} v(x_i) \quad (1)$$

Building on this formulation, risk attitudes can be decomposed into several underlying factors, most notably the attention function  $\alpha$  and the utility function  $v$ , both of which are context-sensitive. In particular, the stability and volatility of  $\alpha$  provide insights into decision-making processes that extend beyond standard notions of uncertainty aversion, and can also account for well-documented anomalies such as the “Allais Paradox”.

Within the context of this paper, attention theory emphasizes the role of perception, whereby different functional forms of  $\alpha$  and  $v$  generate distinct behavioral patterns across the two surveys.

As suggested by the professor, an overarching energy–identity–intelligence perspective may further enrich the analysis of decision-making. This framework seeks to integrate multiple dimensions of human behavior while decomposing the relative contributions of each component.

Although the available data are too limited to uncover the precise mechanisms underlying the observed correlations, the discussion here outlines several plausible pathways. This provides a valuable starting point for future research on the formation of risk attitudes and time preferences within refugee populations.

## 5 Concluding Remarks

The interplay between poverty and decision-making processes merits greater scholarly and practical attention, particularly in underdeveloped countries ([Carvalho et al., 2016](#)). Looking ahead, it is important that modern advances in behavioral and experimental economics are more widely disseminated among practitioners and officers in international organizations, encouraging the application of these theories to the design of survey instruments for marginalized populations and other field-based research. Such efforts would not only enhance the quality and reliability of data collection, but also serve as a crucial bridge between academic research and applied practice, thereby strengthening the relevance and impact of microeconomic theory in addressing development challenges.

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