Department of Economics – Neuroeconomics Seminar

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Exploring response time phenomena in economic choice

In recent years we have focused a lot on the relationship between strength-of-preference and response time (RT), namely the fact that decisions between more similarly liked options take more time. However, there is more to RT. One pattern that has emerged from a number of studies is a negative correlation between overall value and RT. Decisions between high-value options are consistently faster (and often more accurate) than equivalent decisions between low-value options.

There are a number of reasons why this might be the case, some normative, some mechanistic, and some artefacts of how value is measured. We conduct a series of experiments and use drift-diffusion models (DDM) to distinguish between these explanations. A second aspect of RTs is that their distributions can reveal different components of preference. Using DDMs we can decompose revealed preferences into underlying categorical preferences (e.g. beer vs. whiskey) and item-specific preferences (e.g. Feldschlössen vs. Talisker), as reflected by starting-point and drift-rate biases. With this tool, we use two experiments to study how categorical preferences appear (and disappear) from a combination of prior information and experience in the choice environment. Finally, there is debate about whether, in strategic decision making, long RTs reflect careful deliberation or not knowing what to do. Some (most notably Ariel Rubinstein) have argued for the former, while others, like myself, have argued for the latter.

Here I propose a solution that can accommodate both views: it depends on the difficulty of the decisions. If the decision is easy, a slow response is a bad sign, but if the decision is very difficult, a slow response is a good sign. We test this idea with a 2-person beauty contest, which has an objectively optimal choice, i.e. a dominant strategy. We examine the correlations between RT and choice of the dominant strategy in a difficult and in an easier scenario. What we found was surprising.