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RESEARCH STATEMENT

I am an applied micro-economist, with a special focus on behavioral economics. I use a broad portfolio of research methods—including experiments and advanced micro-econometric techniques—to further our understanding of human judgment and decision making. I have worked on a wide range of topics, including decision making under risk and uncertainty, cooperation, negotiation, lying, estimation accuracy, strategic reasoning, and competitiveness. I often take an interdisciplinary perspective, incorporating insights from related disciplines such as sociology, psychology, and biology. I have published in leading international journals such as the *Review of Economics and Statistics*, *Management Science*, *Nature Human Behaviour*, and the *American Economic Review*. In this document, I will discuss my past and current work and provide an outline of my future research plans.

Naturally occurring experiments

Most of what we know about the way in which people make decisions derives from cleverly designed laboratory experiments. Data from the real world typically can't be used, because the many complexities that arise "in the wild" often make it impossible to discriminate between competing explanations for the behavior that is observed. Controlled laboratory experiments can be designed to avoid such complexities and enable the researcher to make clean inferences from the observed behavior. Subjects in experiments are often students, who perform abstract tasks, with no or only limited experience, under anonymous conditions, and for hypothetical or small stakes. These special features create a gap with many real-world environments, and are at the root of persistent concerns about the generalizability of laboratory findings: critics doubt whether findings from such experiments can be extrapolated to people from the population at large, who make decisions in various contexts where the consequences are always real and often significant, who face different degrees of public scrutiny, and who often have some experience with the decision at hand.

To address the critical question whether the results of experiments can be generalized to markedly different choice environments, I often employ large and rich data sets from carefully selected field settings that can be characterized as natural (or "naturally occurring") experiments. Some of the settings that I use are highly controlled and almost appear to be designed by a researcher. Game shows are a good example: they are typically repeated under similar conditions, with strict and well-defined rules. Complementary to both laboratory experiments and conventional field data, game shows allow us to study high-stakes choices of a diverse group of individuals in a very public environment. By carefully selecting useful shows I have been able to use them to study a range of behavioral research questions.

In my first game show paper, my co-authors and I analyze the determinants of cooperation in the British game show Golden Balls. In this show, two contestants play a high-stakes game that closely resembles the prisoner's dilemma. The paper—*Split or Steal? Cooperative Behavior When the Stakes Are Large*—was published in Management Science in 2012, and attracted much attention. I have heard from colleagues from across the globe that they use this paper when teaching game theory.

In a follow-up paper using data from the same show—*Malleable Lies: Communication and Cooperation in a High Stakes TV Game Show*—published in Management Science last year, my co-authors and I focus on the conversation that takes place between contestants before they play the variant on the prisoner's dilemma. In the previous paper, we had observed that that contestants who made explicit promises as part of the pre-play

communication were more likely to cooperate than those who had not done so. In this paper, we depart from the conventional binary approach of classifying statements as promises or not, and instead propose a more fine-grained two-by-two typology inspired by the idea that lying aversion leads defectors to prefer statements that are malleable to ex-post interpretation as truths. Our empirical analysis shows that statements that carry an element of conditionality or implicitness are associated with a lower likelihood of cooperation, and confirms that malleability is a good criterion for judging the predictive power of cheap talk.

I have also used data from the British game show Divided to study negotiation behavior, and have various promising projects using game show data underway. In a recent working paper, for example, my co-authors and I study gender differences in willingness to compete, using the high-stakes elimination competition of a TV game show where contestants have to choose between continuing to compete for a large prize (with the risk of ending up empty-handed) and opting out for a comparatively small prize. I will soon finish papers on giving behavior and on people's ability to perform backward induction in a high-stakes strategic game.

In addition to game shows, I employ large datasets from casinos, lotteries, and sports leagues to test behavioral hypotheses in controlled field settings, outside of the behavioral laboratory. For example, in a 2018 paper published in Nature Human Behaviour—*The Wisdom of the Inner Crowd in Three Large Natural Experiments*—my co-authors and I use proprietary data from three incentivized guessing competitions organized by the Dutch state-owned casino chain Holland Casino to analyze ways in which estimation accuracy can be improved. The well-known wisdom of crowds principle states that accurate estimates can be obtained by combining judgements of different individuals. Recent literature suggests that estimation accuracy can also be improved by aggregating multiple estimates from a single individual. This paper is the first to test the approach with field data. Studying a large database of 1.2 million estimates, we find that within-person aggregation indeed improves accuracy, especially when there is a time delay between subsequent judgements. However, these benefit pales against those of between-person aggregation.

My research using game shows, sports, lottery and casino data is well suited to attract the attention of the general public. I have written articles about my own research that have been published in major media outlets such as the Financial Times and the Independent, and my work has received further media coverage in outlets such as the Wall Street Journal, Newsweek, the Times, the Daily Mail, and the Süddeutsche Zeitung.

Experiments

In addition to working with field data, I use laboratory and online experiments to test hypotheses that cannot be straightforwardly tested with field data and I have worked on measuring economic preferences using incentivized experiments. For example, the research on game shows begs the question how behavior is affected by public scrutiny. As game shows are always public, however, they cannot be used to answer this question. Therefore, in the paper *Risky Choice in the Limelight*, published in the Review of Economics and Statistics in 2016, my co-authors and I used experiments to examine how public scrutiny affects risk taking. Understanding the influence of this contextual aspect has broader importance, because people in the real world make risky decisions under varying degrees of scrutiny. Furthermore, it is important for the debate on the external validity of findings from anonymous laboratory experiments to situations with more scrutiny. We find that subjects are substantially more risk averse in the limelight, but that Prospect Theory describes behavior well in both limelight and laboratory conditions.

In some cases, my research has direct value to organizations. In the paper *Measuring Loss Aversion under Ambiguity: A Method to Make Prospect Theory Completely Observable*, published in the Journal of Risk and Uncertainty in 2016, my co-authors and I introduce a novel method to measure a person's loss aversion—the

degree to which people are psychologically impacted by losses. Subsequently, I have assisted the asset management branch of the Belgian bank KBC to develop a gamified app that is based on this method. This app has been used in Belgium and Ireland. There are plans to use the tool in more countries in which KBC operates. After the development of this app, I have been involved in discussions with various stakeholders, such as the Dutch Authority for the Financial Markets (AFM) and a large Dutch pension fund, about the way in which risk preferences of clients of financial institutions should be measured.

Future directions

While laboratory experiments are useful in that they allow us to abstract away from real-world complexities, and thereby make clean inferences from observed behavior, they are not without their drawbacks. First, there is the persistent concern about the generalizability of findings from laboratory experiments to real-world environments. Second, as a consequence of the strong reliance on experiments, behavioral research also suffers from a more general disconnect: the emphasis on tightly controlled experiments has at times steered research towards questions that are particularly well answerable and relevant within the context of the lab, but that are rather distant from the real-world behavior that we should ultimately be interested in.

In my future research, I will use a combination of different research methods to increase our understanding of how people make decisions in the real world, and build a bridge between the laboratory and the field. I will do so using two approaches. First, I will continue to use large and rich data sets from a variety of carefully selected field settings because they have some of the attractive features of experiments and happen beyond the control of the researcher. In addition to using data from game shows, casinos, and sports leagues, I foresee working more with data from financial institutions. In one project, my co-authors and I will study investors' tendency to avoid bad news using data from a large Dutch online brokerage firm. In another project, we will use a unique proprietary dataset that combines complete overviews of car damages and insurance claims to study the optimality and determinants of people's claim behavior under a bonus-malus insurance system. Although bonus-malus insurance systems are common and the decision to claim can be consequential for the insuree and her household's financial well-being, there has hitherto been little to no academic research investigating whether people are able to make these choices optimally, probably owing to the difficulty in obtaining the required archival data. We have been able to acquire the data, and I believe that our research will fill an important gap in the literature.

Second, I will directly connect people's choices in laboratory outcomes with real-world decisions elicited through surveys or observed in administrative data. Previously, I have worked on the measurement of risk preferences. In collaboration with financial institutions and regulators, I plan to elicit risk preferences of clients of financial institutions, and investigate which elicitations best predict their real-world financial decisions. I also plan to explore the behavioral drivers of disparate outcomes in earnings and wealth between different demographic groups. For example, a sizable literature in experimental economics suggests that the gender gap in earnings can be partially explained by gender differences in willingness to compete. There is some indication that people with a working-class or ethnic minority background are also less willing to compete, at least against members of the dominant social class. I plan to investigate the robustness of this finding, and, if it is robust, to explore to what extent such differences in willingness-to-compete as measured in the behavioral laboratory can account for the class-background and racial gaps that we observe on the labor market.

Many of the projects described are already planned or in progress, and I have several promising working papers underway. The projects provide ample opportunity for collaboration with colleagues in economics, but also across disciplines, most notably in finance, sociology, management, and psychology.