

Wealth Differentials and Decision-Making Quality: A Combined Survey and Field Experiment

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II. Aims and objectives

Inequalities in lifetime earnings generate important inequalities in wealth. However, many studies show substantial wealth differences even among households with very similar lifetime incomes. It thus appears that there are other key determinants of wealth levels. Because wealth is determined by countless decisions, made over time in many different settings, and involving a many different tradeoffs, a traditional argument is that differences in tastes, such as patience or risk aversion, drive inequalities in wealth, given income.

A new economics literature takes a different tack and shows that wealth differentials are also driven by differences in the *quality* of decision-making. This literature allows that the choices that some individuals actually make may be different from the choices they would make if they had the skills or knowledge to make better decisions. Research in this vein considers the possibility that, even if they have all relevant information, individuals might not have the ability to identify and make the choice that best meets their objectives.

The idea that decision-making quality may vary both has intuitive appeal and important consequences for economic theory and policy. However, definitive judgment about the quality of decision-making is made difficult by twin problems of *identification* and *measurement*.

- The identification problem is to distinguish differences in decision-making quality from unobserved differences in preferences, information, beliefs or constraints.
- The measurement problem is to define and implement a portable, practical, quantifiable, and interpretable measure of decision-making quality.

In some cases the relevant incentives are sufficiently clear and data quality is sufficiently high, so that regarding some decisions as higher quality is straightforward and uncontroversial. More generally, a measure of decision-making quality is difficult to formalize, quantify and to make practical for use in a variety of choice environments. These features of a measure are especially important to the extent that decision-making quality is a trait—a characteristic of a person that affects decisions in many different contexts.

In this project, we propose to measure aspects of decision-making quality by the compliance of choices with economic rationality. We will then examine whether our proposed measure of decision-making quality -- the consistency of the experimental data with the utility maximization hypothesis -- is useful in explaining household wealth differentials. The same basic method can be used to investigate whether heterogeneity in this measure of decision-making quality can help explain heterogeneity in consumption choices, insurance purchase, retirement decisions, or health investments among other important behaviors.

The proposed research will be implemented with the CentERdata, Longitudinal Internet Studies for the Social Sciences (LISS) panel (a representative sample of more than 5,000 Dutch households). The CentERdata specializes in online surveys and experiments and manages the CentERpanel (a representative sample of over 2,000 Dutch households), the LISS panel and several other panels.¹ Panel members complete questionnaires at home every week through the Internet. The advantage of using the CentERpanel is the wide range of individual socio-demographic and economic information that it provides about the panel members. It thus provides a unique opportunity to combine experimental data with socio-demographic and economic variables from the survey.

¹ CentERdata is an institute in the Tilburg School of Economics and Management. (<http://www.centerdata.nl/en/centerpanel>).

III. Research methods

In the proposed experiment, we will present subjects with a sequence of standard decision problems: selection of a bundle of commodities from a budget set. The approach has two important advantages over earlier methods: First, because the interface is user-friendly, we can present each subject with many choices, yielding a much larger data set. We can thus analyze behavior at the level of the individual subject. Second, because choices are from standard budget sets, we can use classical revealed preference analysis to determine if behavior is consistent with utility maximization, and classical demand analysis to recover underlying preferences. The proposed analysis will consist of a combination of structural and descriptive work and will provide:

- (a) A regression analysis of the relationship between preferences, the degree of rationality, and socio-demographic variables.
- (b) An investigation of the correspondence between decision-making quality and practical questions concerning wealth differentials in the real world.

IV. Prior studies

In 2009-2010, we conducted experiments with about 1,200 CentERpanel members.² Most important, this CentERpanel study provided proof of concept. It demonstrated the feasibility of implementing our experimental protocol through a web-based survey on a large scale. We find a considerable heterogeneity in subjects' consistency scores: high-income and high-education subjects display greater levels of consistency than low-income and low-education subjects, men are more consistent than women, and young subjects are more consistent than older subjects. We also find that consistency with utility maximization is strongly related to wealth: a standard deviation increase in the consistency score is associated with 15-19 percent more wealth. This result conditions on socioeconomic variables including current income, education, and family structure, and is little changed when we add controls for past income, risk tolerance and the results of a standard personality test used by psychologists.

V. Relevance for equitable growth

Heterogeneity in decision-making quality has potentially important consequences for economic inequality and policies aimed at alleviating it.

- First, differences in decision-making quality can amplify the effects of inequality in earnings. If, for example, people with higher earnings tend to purchase more expert financial advice, they will avoid more low-quality financial choices and better secure and grow their wealth. Similarly, the onset of poor health is often accompanied by a decline in lifetime income. If, as evidence suggests, the quality of decision-making also declines with poor health, the consequences for lifetime wealth may be even more dramatic.
- Second, in an increasing complex economic world, differences in decision-making quality may dampen the impact of efforts aimed at reducing income inequality. Specifically, if some people tend to make lower quality financial decisions, then policies designed to increase their earnings will have less impact on their well-being because these individuals have less capacity to turn income and savings into future wealth. By clarifying the role of decision-making quality in wealth accumulation, our proposed research can help quantify this dampening effect on policy and begin to identify mechanisms for alleviating it.

² See Choi et al (2011) "Who Is (More) Rational?" (http://emlab.berkeley.edu/~kariv/CKMS_1.pdf) for a description of the study.