Influence and choice shifts in households: An experimental investigation

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ABSTRACT

In this paper, we examine the relative influence of individual decisions on joint household decisions, and whether and to what extent joint choices are more or less patient than individual choices in households. We find that both spouses have a significant influence on joint decisions, whereas husbands on average have a stronger influence than wives. Moreover, we find a substantial share of choice shifts from individual to joint household decisions, i.e. joint decisions are either more patient or more impatient than both individual choices. A number of observable characteristics are significantly correlated with these shifts in preferences from individual decisions to joint decisions.

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1. Introduction

The empirical literature on household decision-making is by now extensive. Previous studies looking at actual decisions in the household suggests that the outcomes of household decisions depend on who in the household has control over the resources (Thomas, 1990; Browning, Bourguignon, Chiappori, & Lechene, 1994; Duflo, 2003; Lundberg, Pollak, & Wales, 1997; Namoro & Roushdy, 2008; Phipps & Burton 1998). In addition, by changing the control of income or access to financial assets, a set of field experiments reveal the importance of financial control in improving women's decision power and the decisions of the household (Ashraf, 2009; Ashraf, Karlan, & Yin, 2010; De Mel, McKenzie, & Woodruff, 2009; Mani, 2010;

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Robinson, 2012). Recently, controlled experiments have also been used to investigate the influence of spouses on joint decisions (Abdellaoui, Haridon, & Paraschiv, 2011; Bateman & Munro, 2005; Carlsson, He, Martinsson, Qin, & Sutter 2012; Carlsson, Martinsson, Qin, & Sutter 2013; de Palma, Picard, & Ziegelmeyer, 2011). Apart from having control over the decision environment, the perhaps main advantage of controlled experiments is that both individual and joint decisions can be observed and related to each other. Controlled experiments have allowed researchers to directly estimate the spouses' respective influences and relate them to the characteristics of the households and the individual decision makers.

Intertemporal choices are of great importance to households since they often concern decisions such as savings, investments, and education. With the exceptions of Abdellaoui et al. (2011) and Carlsson et al. (2012), the literature on households' intertemporal decisions is relatively scarce. In this paper we study households' and spouses' intertemporal decisions in a controlled experiment where decisions are made both individually and jointly.[2] We investigate two aspects of household decisions making. The first is the influence on joint decisions by the husband and wife. The second is to what extent joint household decisions are more extreme or polarized than individual decisions.

Using the framework in Carlsson et al. (2012), we relate the individual choices to the choices made jointly and investigate to what extent the husband and wife influence joint decisions, and compare their relative influence. There is evidence that group decisions can become more extreme or polarized than individual decisions (Ambrus, Greiner, & Pathak, 2009; Cason & Mui, 1997; Eliaz, Raj, & Razin, 2006; Moscovici & Zavalloni, 1969; Shapiro, 2010; Stoner, 1968; Sunstein, 2000; Sunstein, 2002). Theoretically, there are a number of factors that can explain the difference between group and individual decisions as well as shifts in decisions, such as social comparison concerns (Levinger & Schneider, 1969), diffusion of responsibility (Eliaz et al., 2006), and altruistic concerns (Shapiro, 2010). Similar to group decisions, many household decisions are discussed and reflect, to varying extents, individual members' preferences. Studying to what extent joint household decisions are shifted is therefore of particular interest since the "diffusion of responsibility" and altruism play potentially important roles in household decision-making.

The type of shift we investigate is whether the joint decision on how much to allocate to the sooner date is outside the range of allocations to the sooner date given by the individual decisions. If a joint choice is more patient than the individual ones, we refer to it as a *patient shift*. The opposite case, where the joint choice is more impatient than the individual ones, is referred to as an *impatient shift*. Since a household is a group where individuals know their partners well, household joint intertemporal decisions could be useful in helping some individuals overcome for example self-control problem (Kono, Matsuda, Murooka, & Tanaka, 2011). In this sense, individual spouses could make more patient decisions in a joint setting than they would have made the decisions separately. A plausible explanation for why the joint choices are shifted to be more patient is that the spouses care about each other's preferences, and apply patient preferences when they know that the outcome will affect their spouse (Shapiro, 2010). Thus, even if, say, the husband is a hyperbolic discounter he might think it is better if the joint decision is more patient and is therefore willing to shift the decision.

We conduct an artefactual field experiment with 164 couples in rural China. In this experiment, couples made both separate and joint decisions on how much money to allocate to an early date and a later date. In addition, instead of the widely used multiple price list elicitation method in time preference literature (Andersen, Harrison, Lau, & Rutström, 2006; Andersen, Harrison, Lau, & Rutström, 2008; Coller & Williams, 1999; Harrison, Lau, & Williams, 2002; Tanaka, Camerer, & Nguyen, 2010), we employ the Convex Time Budget experimental method suggested by Andreoni and Sprenger (2012) to elicit individual and couple's intertemporal allocation decisions. The main advantage of this method is to account for the curvature of utility function.[3] The subjects can thus continuously allocate a certain amount of money between a sooner date and a later date. In the experiment, the subjects were asked to make ten different decisions where the interest rate and whether the early date is immediate or not are varied. With this approach we obtain detailed information about the characteristics of individual and joint choices, including the relationship between individual and joint decisions and to what degree joint choices can be shifted outside the range of individual choices.

The rest of this paper is organized as follows. In Section 2 we introduce the details about experimental design and procedure. Section 3 presents the analytical framework. We present and discuss descriptive results and regression results in Section 4. Finally, Section 5 concludes the paper.

2. Experimental design and procedure

2.1. Location of the experiment and description of the sample

The experiment was conducted in two counties of the Gansu province, which is located in the northwest of China. The two counties are Linxia and Jingning, which are located in the southwestern and southeastern parts of the province, respectively. As can be seen in Table 1A in Appendix A, in each county, we randomly chose three townships, and in total 13 villages were randomly selected.

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[2] Here and henceforth, the respondents indicate husbands, wives or couples.

[3] There have been some concerns about the Convex Time Budget, in particular regarding the amount of information actually obtained from the experiments (Harrison, Lau, & Rutström, 2013). The main concern is the potentially large amount of corner observations, i.e. subject that either allocates all the money to the early date or the late date alternative.