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If we run the current version of the code, `RelativeDemandGraph.do`), we get the following figures:

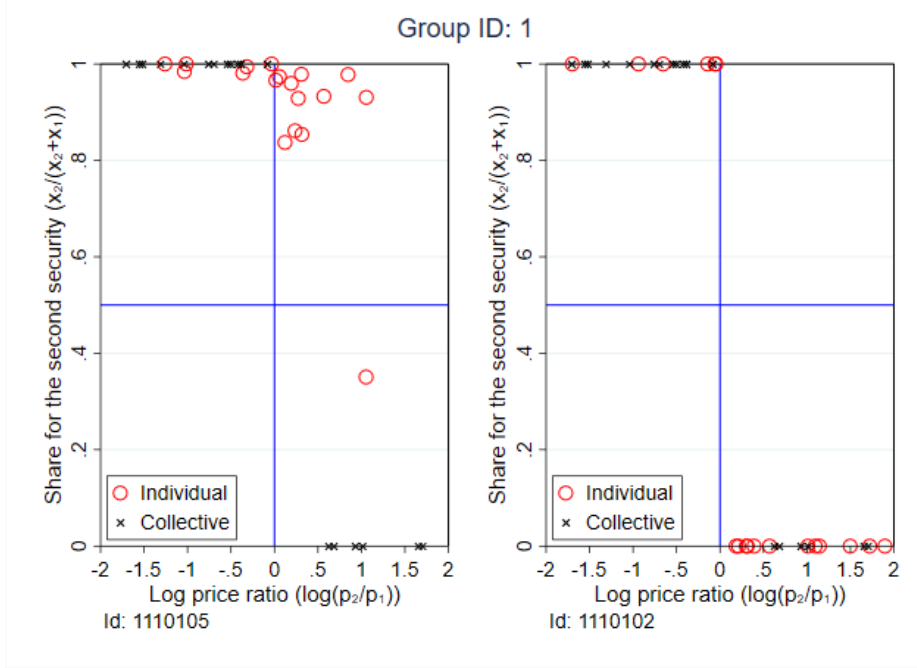


Figure 1:  $x$ -axis represents log price ratio, and  $y$ -axis shows the relative demand for  $x_2$ . Black  $\times$  marks correspond to the observed joint decision given the price ratio, and red circles are for individual decisions.

Our final goal is to plot the optimal demand as a function of price ratio by using *the estimated individual utility parameters*

1. Learn the analytic solution of the optimal demand (`DA-2-analytic-Choi.pdf`) given utility parameters.
2. In the dataset, the first 18 observations are for individual choice. The latter 18 observations correspond to the collective choices with a matched partner.
3. The key estimates are  $a$  and  $\alpha$ , and  $r$  and  $\rho$ . In the data, *acr* and *rcr* correspond to the CRRA specification. As our main specification is CARA, results for CARA must have the top priority.

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4. `Risk_Merged_Short.dta` contains variables called  $a$  and  $r$ , which correspond to  $\alpha$  and  $\gamma$  in `DA2-analytic-Choi.pdf`.
5. For each individual within a group, draw his/her own optimal demands and those of partners as well, as a function of log price ratio

Notes      • Please keep other components in the graph.