

Household Climate Finance: Theory and Survey Data on Safe and Risky Green Assets

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What Johannes, Martin, Monika, and Shifrah do

- Survey (Deutsche Bundesbank Household Survey on Consumer Expectations)
 - Questions about green asset holdings
 - Hypothetical questions and questions on expected returns/perceived risk
 - Information provision experiment
- Model
 - New model
 - Parameters disciplined by survey data
 - Counterfactuals

Survey: Holdings of Green Assets

- Question module that asked HHs to provide a detailed breakdown of their financial portfolio holdings.
 - Within each asset category, HHs were asked to provide Euro amount of their “sustainable” holdings.
 - Definition: Assets that hold shares in enterprises that operate in a comparatively environmentally-friendly manner, are engaging more in “green” projects, or a fund that invests in such enterprises.
- Findings:
 - Participation rate: 98% own debt. 61% own traditional equity. 34% own green equity.
 - Portfolio share: 62% debt, 30% traditional equity, 8% green equity.
- While majority of households have low equity share, the available green products are equity based.
- Detail: perceived share of green in traditional equity funds or share of green equity funds in portfolio?

Survey: Hypothetical questions to measure taste for a green safe asset

- Text: “Some banks offer ‘green savings accounts’ that guarantee that your deposits are used to fund sustainable investments. Imagine your bank offered both traditional savings accounts and green savings accounts.”
- Question: “In which cases would you choose the traditional account or the green account?”
- Large heterogeneity in the minimum accepted green spread. Answers seem sensible. 30% have a zero green spread. Another 25% have a -0.5 or -1.0 green spread. 15% have a -2.0 green spread.
- Taste for a green safe asset correlates with age, party vote, other measure of green preferences.
- Comment: Large fraction of zero or negative spread is a striking result! I would love to know more. What would happen if respondents were given a *continuous choice*, or were asked in which case they would choose to *switch* from the traditional to the green account?

Survey: Information provision experiment

- 4 treatments (5 groups) before answering the November 2021 questions
- Treatment I: “... Sustainable equity funds can contribute to climate protection by encouraging enterprises around the world to operate in a more climate-friendly manner.”
- The treatment increases individuals’ expected excess return of green over traditional equity (“greenium”), but the treatment has no significant effects on minimum accepted green spread.
- **Detail: It would be nice to offer an interpretation for the combination of results. Individuals are not willing to sacrifice more for a green bank account. Individuals revise up their expected return on green equity.**

Model: New model

- The model:

$$\max_{c_0, w_1, e_t, e_g, b_t, b_g} \log(c_0) + \beta \log E \left[w_1^{1-\gamma} \right]^{\frac{1}{1-\gamma}}$$

$$s.t. \quad c_0 + b_t + e_t + b_g + e_g = w_0$$

$$w_1 = H \left(R_f^t b_t + R^t e_t + \theta R_f^g b_g + \theta R^g e_g \right)$$

$$H = e^{\eta_0 + \eta_g (\log R^t - \log R^g)} \quad b_t, e_t, b_g, e_g \geq 0 \quad \Sigma = \sigma_t^2 \begin{bmatrix} 1 & \lambda\rho \\ \lambda\rho & \lambda^2 \end{bmatrix}$$

- Comment: Could different thetas for safe assets and risky assets play a similar role as H?

Conclusion

- There appears to be a large unmet demand for a safe green asset.