

THE SAVING BEHAVIOR OF HETEROGENEOUS HOUSEHOLDS AND CREDIT CONSTRAINTS

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Overview

This paper sheds light on how saving decisions respond to credit constraints. More specifically, the paper is concerned with whether the households saving behavior responds to credit constraints to build wealth and relax liquidity constraints or accumulate funds for precautionary purposes. The paper attempts to understand to what extent credit-constrained households can build wealth when the presence of a liquidity trap characterizes the macro environment.

Previous Studies

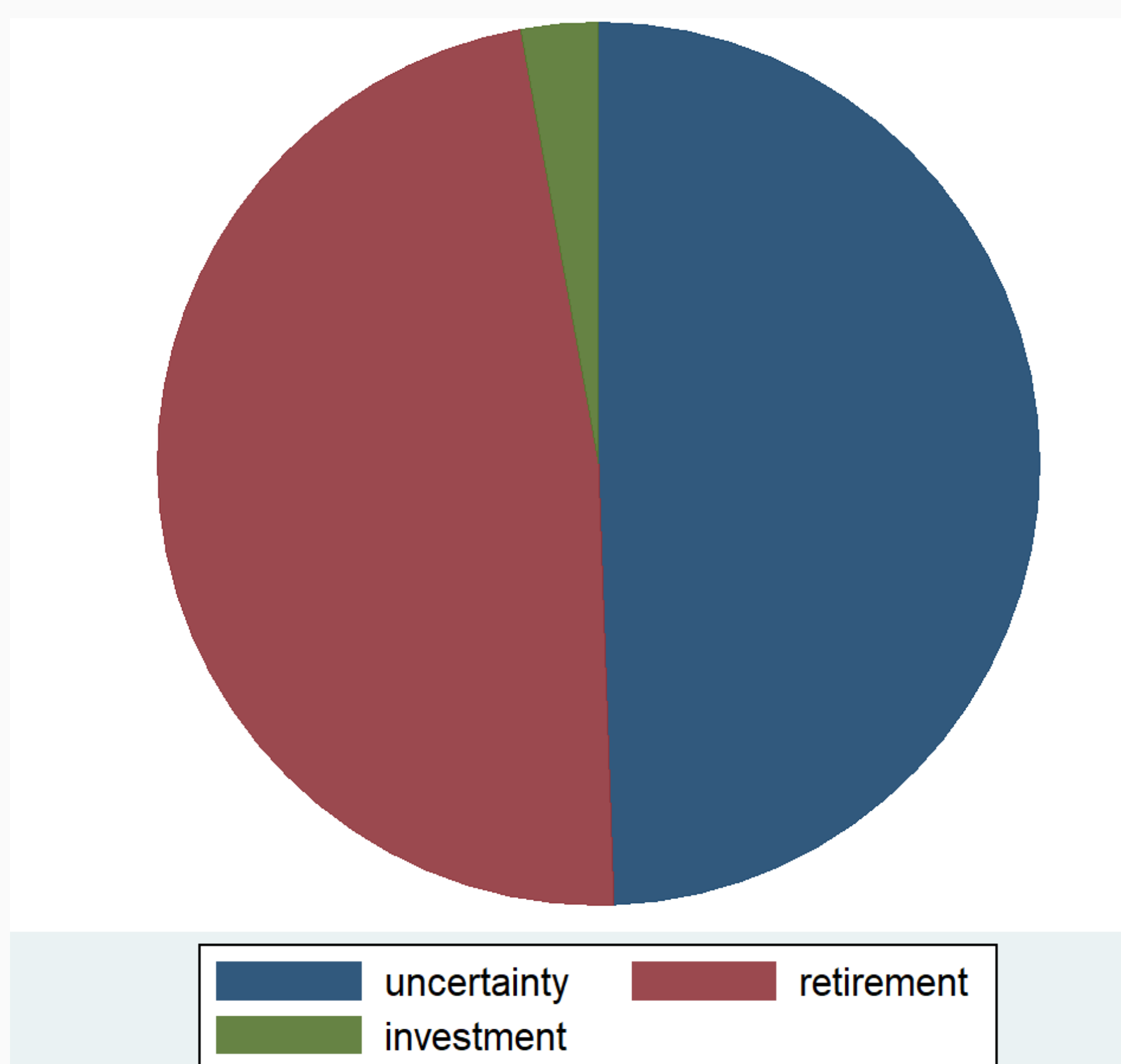
- Numerous studies focus on the relationship between liquidity constraints and saving (Leland, 1968; Jappelli, 1990; Xu, 1995).
- Xu (1995) finds that liquidity constraints have a significant effect on household consumption and saving behavior.

Research Objectives

This paper:

- Examines the role that credit constraints play in the saving decisions of households by focusing on a well-defined set of reasons for saving.
- Classifies saving motives as (1) precautionary saving (liquidity), (2) saving to finance investments, and (3) saving for retirement.
- Classifies discouraged and constrained households.
- Utilizes probit regressions to examine the effect of credit constraints on constrained and discouraged households' saving behavior.
- Employs quantile regression to estimate how credit constraints affect household wealth at different levels.

Why Do Households Save?



Methods

- Jappelli (1990) defines an agent as credit-constrained if: $C^* - Y - A(1+r) > D$ Which is equivalent to $S^* < Y - C^* \iff C < C^* \iff S < S^*$

- By discouraged households, we refer to households that perceive a high probability of loan denials, while constrained households are those whose credit applications are denied by financial institutions.
- We use cross-sectional data from the 2016 Survey of Consumer Finances (SCF) and apply the following probit model:

$$S_i = \alpha_0 + \alpha_1 Credit_i + \alpha_2 X_i + \alpha_3 FR_i + \epsilon_i$$

- Where S_i is a dummy variable indicating the households saving decisions, $Credit_i$ represents credit constraint in which the household application for a loan gets denied, FR_i is a dummy variable indicating financial risk averse household, X_i represents demographic variables such as gender, age, race, number of children, and marital status, and ϵ_i is an error term.

- We utilize quantile regression to examine the effect of credit constraints on the wealth of constrained and discouraged households.

$$W_i = \delta_0 + \delta_1 Credit_i + \delta_2 X_i + \epsilon_i$$

- W_i refers to wealth, which is the financial assets that are expressed in logarithm in this model.
- Following Amemiya (1982), to address potential endogeneity issue, we apply the Two-Stage Least Absolute Deviations (2SLAD) estimator. We utilize the credit score (CS) as an instrumental variable.

Results

Table 1: Effect of Credit Constraints on Constrained & Discouraged Households Saving Decisions

	Constrained			Discouraged		
	Retirement	Liquidity	Investment	Retirement	Liquidity	Investment
Credit	-.08** (.04)	-.14** (.04)	.113 (.09)	-.12 (.06)	.115** (.06)	-.76** (.33)
Black	-.24*** (.04)	.09** (.04)	.22*** (.07)	-.24*** (.07)	.08** (.04)	.24*** (.07)
Age	.12*** (.004)	-.04*** (.004)	-.04*** (.01)	.04*** (.004)	.08* (.08)	-.04 (.008)
Age ²	-.001*** (.000)	-.00*** (.000)	0.00*** (.000)	-.001*** (.000)	.0003 (.000)	0.0003*** (.000)
College	.078*** (.02)	-0.03 (.02)	0.004 (.02)	0.08*** (.05)	-.023 (.02)	-.002 (.05)
# of children	-.103*** (.01)	-.02** (.01)	-.08*** (.03)	-.10*** (.01)	-.025** (.01)	-.074*** (.027)
Married	-.130*** (.03)	-.01** (.03)	.39*** (.06)	-.13*** (.03)	.07** (.03)	.4*** (.06)
Female	-.001 (.03)	-.4 (.03)	-.43*** (.08)	.001 (.04)	-.037 (.04)	-.43*** (.08)
Income	-.05*** (.007)	-.004 (.007)	.095*** (.014)	-.047** (.007)	-.002 (.014)	.093*** (.014)
Homeowner	.165*** (.03)	0.03 (.05)	.36*** (.07)	.164*** (.03)	.04 (.03)	.24*** (.08)
Financial Averse	-.202*** (.02)	.06** (.03)	.14** (.06)	-.2 (.03)	.055** (.03)	-.15*** (.057)
Constant	-2.68*** (.15)	.48*** (.13)	-2.8*** (.29)	-2.7*** (.15)	.44** (.14)	-2.77*** (.3)
Observations	19406					

Robust standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1.

Results

Table 2: Effect of Credit Constraints on Constrained & Discouraged Households Wealth-2SLAD Model

	Constrained			Discouraged		
	Q.25	Q.50	Q.75	Q.25	Q.50	Q.75
Credit	-.382*** (.07)	-.349*** (.073)	-.775*** (.139)	-.541* (.297)	.709*** (.163)	-.277 (.246)
Black	-.49*** (.046)	-.463*** (.053)	-.564*** (.047)	-.502*** (.05)	-.546*** (.051)	-.618*** (.032)
Age	.0925*** (.005)	.119*** (.005)	.145*** (.009)	.095*** (.005)	.113*** (.006)	.145*** (.009)
Age ²	-.0005*** (.00005)	-.0006*** (.00004)	-.0008*** (.00001)	0.00049*** (.00005)	-.0005*** (.00006)	-.0007*** (.00008)
College	1.073*** (.021)	1.28*** (.040)	1.488*** (.036)	1.08*** (.022)	1.30*** (.031)	.41*** (.03)
# of Children	-.048*** (.011)	-.004 (.012)	.0095 (.027)	-.050*** (.012)	-.013 (.008)	-.0005 (.022)
Married	-.354*** (.052)	-.495*** (.066)	-.442*** (.045)	-.348*** (.045)	-.516*** (.042)	-.546*** (.066)
Homeowner	.446*** (.042)	.487*** (.049)	.6377*** (.058)	.451*** (.027)	.523*** (.038)	.693*** (.069)
Female	-.390*** (.055)	-.438*** (.076)	-.452*** (.068)	-.373*** (.051)	-.444*** (.052)	-.511*** (.034)
Financial Averse	-.8545*** (.030)	-.962*** (.032)	-1.03*** (.051)	-.848*** (.034)	-.959*** (.024)	-.999*** (.043)
Constant	7.85*** (.174)	7.79*** (.159)	7.91*** (.276)	7.75*** (.152)	7.87*** (.190)	7.8*** (.267)
Observations	19623					

Standard error in parenthesis *** p<0.01, ** p<0.05, * p<0.1

Conclusion

- Constrained households are less likely to save for retirement and for precautionary saving (liquidity) purposes.
- The gap between the targeted and actual saving level negatively affects the ability of constrained households to accumulate wealth.
- The results of this study indicate that researchers should account for credit constraints when modeling household saving behavior.

References

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