The Marginal Propensity to Consume for Different Income Groups

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Key Idea

Permanent Income Hypothesis(PIH), Milton Friedman(1957)

people plan expenditure consistent with their expected long-term average income

Rejection for

liquidity Constraints

Look at different Socio-economic groups

Placing focus on easy access to credit market

High groups are less likely to be constrained

Highly likely to follow PIH (Lower MPC)

Contribution

Life-cycle models of consumption:

Is the evidence consistent with the theory?

- UK Household Survey Data
- Longer data series
- Look at different socio-economic class as proxy for liquidity constraints

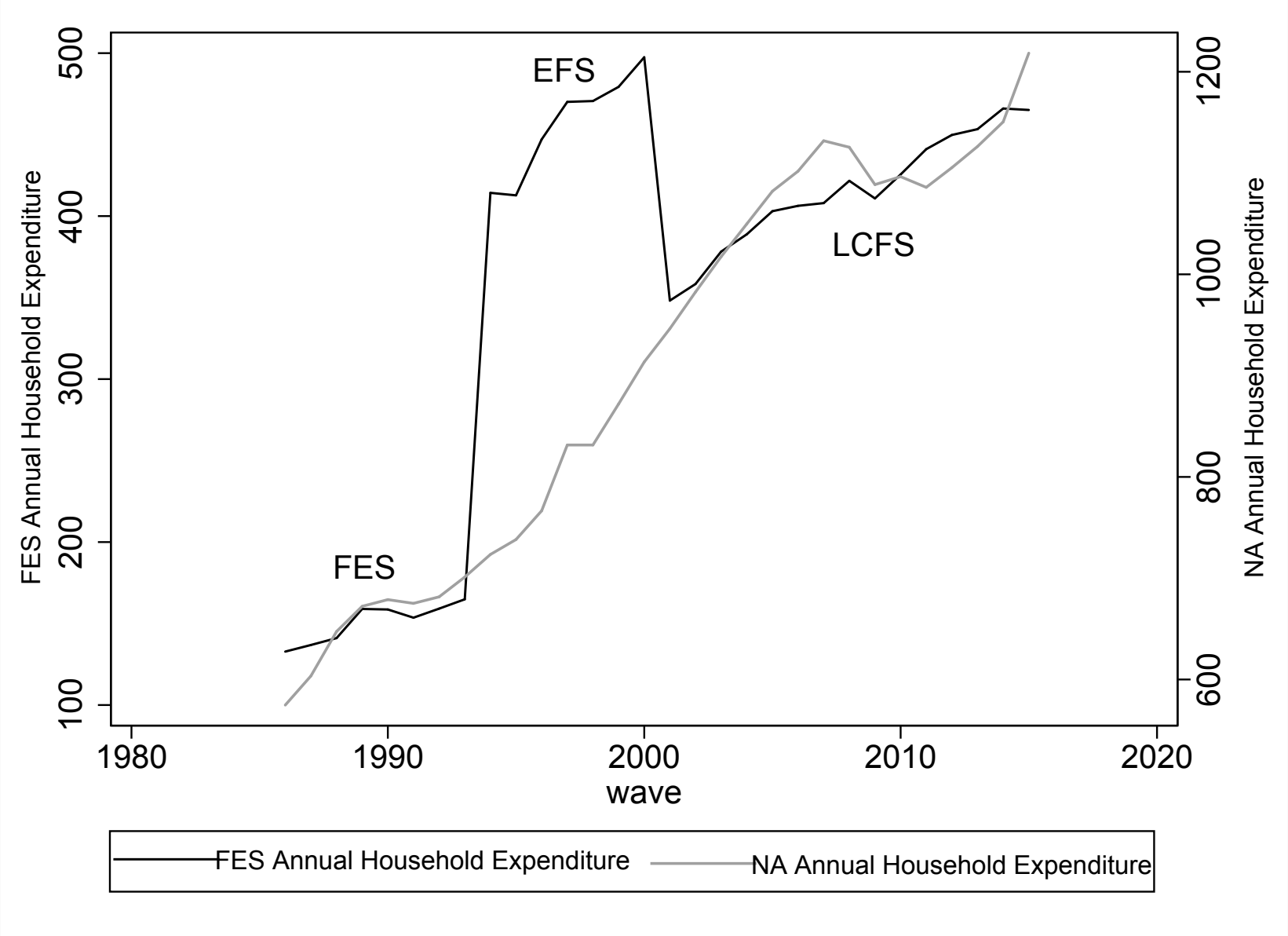
Literature Review

- Muth (1960) agent consumes out of permanent part of their income.
- Hall at al. (1982): Euler equation approach,PI to simple proportionality is 80-20
- Campbell and Mankiw (1989): finds a MPC between 0.32 and 0.71.
- Shea(1995): PSID, Union Contracts, higher MPC for income decline
- Souleles (1999) uses income tax refunds to test PIH. MPC between 0.30 and 0.60
- Zeldes (1989) PIID, Asset based sample,rejects LC/PI hypothesis
- Carroll (1997) buffer stock adjustments to the PIH, supports consumption smoothing
- Flavin (1984), US macro series,unemployment as proxy for liquidity constraints,rejects PIH
- Sharpio et al(2009): 2008 tax rebate as predictable income increase, 20% follow PIH
- Jappelli et al. (2010): The consumption response to income changes

Data

- UK Household Survey Data: three different surveys
  FES(1986-1995), EFS(1995-2002), and LCFS(2002-2015)
- 4,500 and 6,500 households per year interviewed throughout year
- information on household size, composition, and other characteristics
- but *not education*
- household income: *normal weekly income*
- 85 different categories for household expenditure
  we construct total, durable non-durable spending
  defined consistently across the different surveys

Comparison with National Account Data



Data (cont.): Creating a Pseudo-Panel

Problem: Households interviewed only once

Solution: create pseudo-panel – Deaton (1985)

Using a time-series of repeated independent cross-sectional surveys

construct group averages based on common characteristics

We construct four socio-economic groups:

professional, semi-skilled, unskilled, unoccupied

Key Advantage:

fewer panel data problems like attrition/non-response

Summary Statistics

Table 1: Summary Statistics

Groups	Households	Total	Durables	Non-durable	Disp.Income
Group 1	44,682	516.41	150.25	366.17	673.64
Group 2	60,312	375.42	101.34	274.09	412.67
Group 3	51,342	272.36	67.35	205.01	302.21
Group 4	40,006	193.41	40.47	152.94	185.71

Notes:group 1 is professional and highly skilled managers, group 2 is Skilled and semi-skilled non manual workers, group 3 is unskilled, retired, and group 4 is unoccupied households. There are 121 group averages.

Regression

We estimate the Euler Equation including household characteristics:

$$\Delta \ln C_{it} = \alpha + \beta \Delta \ln Y_{it} + \gamma r_t + \varphi Z_{it} + \varepsilon_{it} \tag{1}$$

where for each socio-economic group i at time t

$\Delta \ln C$ is consumption growth

$\Delta \ln Y$ is growth in disposable income

r_t is the real interest rate

Z controls for household level characteristics (age, size)

We estimate for each socio-economic group

- is β lower for professional compared to unskilled workers?

Estimation

We estimate for each socio-economic group

- is β lower for professional compared to unskilled workers

We run separate regressions for each socio-economic group

using 121 group averages for each quarter from 1986-2015

Include the real B.of.England interest rate

as well as average age and average family-size of each group

Estimation is by 2SLS (e.g. response to predictable changes in income)

instrumented using four lags of income

and the Consumer Confidence Index

estimated using robust standard errors

Results-I: Professional

VARIABLES	Δc_{it}	Δc_{it}^{d}	Δc_{it}^{nd}
ΔY_{it}	0.132	-0.698	0.441*
	(0.287)	(0.761)	(0.262)
r_t	-0.315	-1.054*	-0.131
	(0.261)	(0.638)	(0.211)
Average Age Squared	0.00194	-0.0107	0.00474
	(0.00753)	(0.0175)	(0.00704)
Average Family Size	6.006	5.581	7.260
	(6.747)	(20.10)	(4.765)
Constant	-19.73	7.208	-28.98
	(27.76)	(75.13)	(23.61)
Instruments	Yes	Yes	Yes
Observations	114	114	114

Results-II: Semi-skilled

	Δc_{it}	Δc_{it}^{d}	Δc_{it}^{nd}
ΔY_{3t}	0.308	-1.058	0.500*
	(0.387)	(1.346)	(0.290)
r_t	-0.351	-1.797**	-0.176
	(0.219)	(0.705)	(0.145)
Average Age Squared	0.00330	0.00874	0.00334
	(0.00435)	(0.0143)	(0.00304)
Average Family Size	7.282	17.49	7.755
	(11.58)	(37.99)	(8.074)
Constant	-26.19	-62.53	-27.87
	(39.38)	(129.1)	(27.58)
Instruments	Yes	Yes	Yes
Observations	114	114	114

Results-II: Unskilled

	Δc_{it}	Δc_{it}^{d}	Δc_{it}^{nd}
ΔY_{2t}	0.572***	0.688	0.572***
	(0.190)	(0.643)	(0.112)
r_t	-0.653***	-2.150***	-0.327**
	(0.206)	(0.618)	(0.130)
Average Age Squared	-0.00651	-0.0215	-0.00381
	(0.00421)	(0.0134)	(0.00259)
Average Family Size	-0.878	-8.276	-0.409
	(9.688)	(29.52)	(6.354)
Constant	16.67	70.19	9.205
	(32.07)	(98.59)	(20.73)
Instruments	Yes	Yes	Yes
Observations	114	114	114

Results-IV: Unoccupied

	Δc_{it}	Δc_{it}^{d}	Δc_{it}^{nd}
ΔY_{4t}	0.593**	1.456*	0.312
	(0.255)	(0.850)	(0.194)
r_t	-0.325**	-1.170**	-0.169
	(0.160)	(0.508)	(0.131)
Average Age Squared	-0.00287	-0.0270***	0.000404
	(0.00350)	(0.0104)	(0.00310)
Average Family Size	-5.414	-71.74**	3.488
	(9.831)	(29.72)	(8.391)
Constant	22.22	242.6**	-7.543
	(31.96)	(95.37)	(27.81)
Instruments	Yes	Yes	Yes
Observations	114	114	114

Comments

Tested the PIH for the four different socio-economic groups

- we test the response to predictable changes in income

Our results show

- reject for semi-skilled and unoccupied workers
- BUT do not reject for professional households

Results support the idea that

- professional households less likely credit-constrained

THANK YOU