Liquidity Constraints of the Middle Class

Jeffrey R. Campbell* and Zvi Hercowitz†

* *Federal Reserve Bank of Chicago and CentER, Tilburg University*

† *Tel Aviv University*

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Stock Ownership Class	Percentage of Sample	Percentage Spending Most of Rebate
	2001 Tax Rebates	
None	42.8	19.5
$\$1 - \$15,000$	9.1	13.1
$\$15,001 - \$50,000$	9.9	18.1
$\$50,000 - \$100,000$	6.8	26.7
$\$100,000 - \$250,000$	6.2	33.6
More than $\$250,000$	5.1	22.9
Refused/Dont Know	20.1	25.3
	2008 Economic Stimulus Payments	
None	33	20
$\$1 - \$15,000$	13	19
$\$15,001 - \$50,000$	14	19
$\$50,000 - \$100,000$	10	14
$\$100,000 - \$250,000$	11	25
More than $\$250,000$	9	39
Refused/Dont Know	11	25

HAYASHI (1987)

The finding that the Euler equation fails for a fraction of the population does imply that consumption is excessively sensitive to temporary income changes, But that does not allow us to calculate quantitatively (even abstracting from the general equilibrium interaction running from consumption to income) the response of a hypothetical temporary increase in labor income. This is partly because the horizon of those who satisfy the Euler equation is unknown and partly because the concomitant changes in the loan rate schedule depend on the specification of the loan market.

SURVEY OF CONSUMER FINANCES, 1995-2007

	SCF Survey Year				
	1995	1998	2001	2004	2007
All Households	99.0	102.5	106.5	112.1	116.1
Without imputation	97.0	100.3	103.5	109.9	114.5
& with $25 \leq$head's age ≤ 64,	71.3	74.4	76.3	80.4	84.9
& without food assistance,	63.9	68.8	71.7	74.3	76.5
& above the poverty line,	54.2	59.2	61.5	62.5	64.3
& not wealthy,	49.9	54.3	57.0	57.9	60.2
& not self-employed.	43.1	46.9	48.8	49.1	53.1

Middle Class Financial Wealth Relative to Income

Year	Full Sample	Deciles of Wealth to Annual Labor Income 1	2	3	4	5	6	7	8	9	10
					Including All Financial Assets						
1995	30.8	0.1	1.5	3.6	6.2	9.2	13.4	22.4	37.1	71.1	171.6
1998	47.6	0.3	2.1	4.6	8.0	13.1	20.4	32.3	54.7	100.5	247.7
2001	50.4	0.4	2.3	4.9	8.1	13.0	21.0	32.2	54.3	100.6	263.8
2004	43.7	0.1	1.5	3.6	6.2	10.3	16.0	25.4	42.4	85.5	214.9
2007	46.1	0.3	1.7	3.7	6.5	10.3	16.4	26.0	44.2	84.2	220.8
					Excluding Equities						
1995	22.9	0.1	1.3	3.1	5.2	7.8	10.9	16.2	27.1	49.2	134.3
1998	29.8	0.3	2.0	4.0	6.6	10.1	15.0	22.7	35.5	62.9	162.9
2001	31.7	0.4	2.2	4.2	6.5	9.7	14.2	22.7	35.1	62.7	174.6
2004	29.4	0.1	1.3	3.0	5.3	8.3	12.4	18.6	29.8	51.4	150.9
2007	32.1	0.2	1.5	3.2	5.6	8.4	12.8	19.6	31.5	56.6	158.0

WHY SAVE?

Now I'd like to ask you a few questions about your family's savings. People have different reasons for saving, even though they may not be saving all the time. What are your family's most important reasons for saving?

- Retirement and Estate
- Precaution
  - Reserves in case of unemployment,
  - In case of illness; medical/dental expenses,
  - Emergencies; "rainy days"; other unexpected needs; For "security" and independence, or
  - Liquidity; to have cash available/on hand.
- Anticipated Expenditures
  - Children's education; education of grandchildren,
  - Own education; spouse's education; education – NA for whom,
  - Buying own house,
  - Purchase of cottage or second home for own use, or
  - Buy a car, boat or other vehicle.

WHY SAVE?

	1995	1998	2001	2004	2007
Retirement & Estate	44.6	60.1	55.4	57.9	64.2
Precaution	45.1	30.9	31.9	31.3	33.8
Anticipated Expenditure	43.6	43.7	41.9	42.6	39.2

Term Saving in Depth

In the next 5 to 10 years, are there any forseeable major expenses that you and your family expect to have to pay for yourselves, such as educational expenses, purchases of a new home, health care costs, support for other family members, or anything else?"

	1995	1998	2001	2004	2007
Foresees Expense	63.1	58.8	60.5	59.0	57.5
Saving Now	38.1	37.1	36.8	35.8	33.9
Saving Complete					1.6

Frequency of Saving for Home Purchase

Age of Head	1995	1998	2001	2004	2007
All	15.5	17.7	17.1	15.5	13.3
25-29	28.3	33.5	24.0	29.5	35.1
30-34	25.2	28.1	29.0	21.2	14.4
35-39	16.9	19.0	22.6	16.1	16.4
40-44	8.3	15.3	14.8	11.8	11.5
45-49	9.4	15.4	11.2	12.7	8.5
50-54	8.9	5.3	12.6	10.4	11.0
55-59	11.9	6.1	6.4	11.3	5.0
60-64	5.9	3.4	6.1	7.3	3.0

Frequency of Saving for Education

Age of Head	1995	1998	2001	2004	2007
All	18.6	19.9	17.8	19.2	17.1
25-29	11.8	18.5	11.1	16.3	13.7
30-34	14.7	16.9	16.9	14.9	13.3
35-39	27.0	26.8	20.5	22.1	23.4
40-44	24.5	29.4	26.6	27.3	21.6
45-49	26.9	19.1	23.1	26.4	25.3
50-54	13.4	19.2	15.7	15.5	15.5
55-59	7.1	6.4	7.7	11.8	9.3
60-64	4.9	2.2	2.6	6.2	6.7

Frequency of Saving for Medical Expenses

Age of Head	1995	1998	2001	2004	2007
All	7.6	5.8	5.4	5.9	6.8
25-29	5.7	5.3	2.5	5.1	4.3
30-34	9.5	7.1	6.5	2.6	5.2
35-39	6.3	7.9	4.7	5.6	4.8
40-44	7.7	6.1	6.0	3.3	4.0
45-49	7.5	5.8	3.4	5.7	7.5
50-54	8.4	3.8	7.0	6.0	8.1
55-59	7.9	2.0	6.4	11.3	11.8
60-64	9.5	6.0	10.1	14.3	10.2

Wealth and Term Saving Dynamics

Saving for a Home Purchase

in 2007? \ in 2009?	No	Yes
No	0.95	0.05
Yes	0.77	0.23

Transition Frequencies

in 2007? \ in 2009?	No	Yes
No	-0.04	0.32
Yes	-0.14	0.15

Mean Wealth Growth Rates

Saving for Educational Expenses

in 2007? \ in 2009?	No	Yes
No	0.93	0.07
Yes	0.56	0.44

Transition Frequencies

in 2007? \ in 2009?	No	Yes
No	-0.03	0.26
Yes	-0.16	-0.06

Mean Wealth Growth Rates

Saving for Medical Expenses

in 2007? \ in 2009?	No	Yes
No	0.97	0.03
Yes	0.86	0.14

Transition Frequencies

in 2007? \ in 2009?	No	Yes
No	-0.04	0.26
Yes	0.04	0.35

Mean Wealth Growth Rates

Our Approach

Basic Model Ingredients

- Impatience ($\beta R < 1$)
- Borrowing constraint (e.g. $A \geq 0$)
- Large expenditures at exogenous intervals

Term Saving

- Assets grow as the expenditure approaches.
- Wealth indicates a forthcoming need for liquidity.

Globally Binding Constraints (Zeldes (1984, 1989))

- Anticipation of hitting the borrowing constraint limits the horizon over which consumption is smoothed.
- MPC rises as the expenditure approaches *if* the household is saving.

THE BASIC MODEL

- Preferences:

$$\sum_{t=0}^{\infty} \beta^t \left(\ln C_t + \mu_t \ln M_t \right)$$

$$0 < \beta < 1, \quad \beta R < 1$$

  $\mu_t = \mu > 0$ every τ "years" and $\mu_t = 0$ otherwise.

- Budget Constraint:

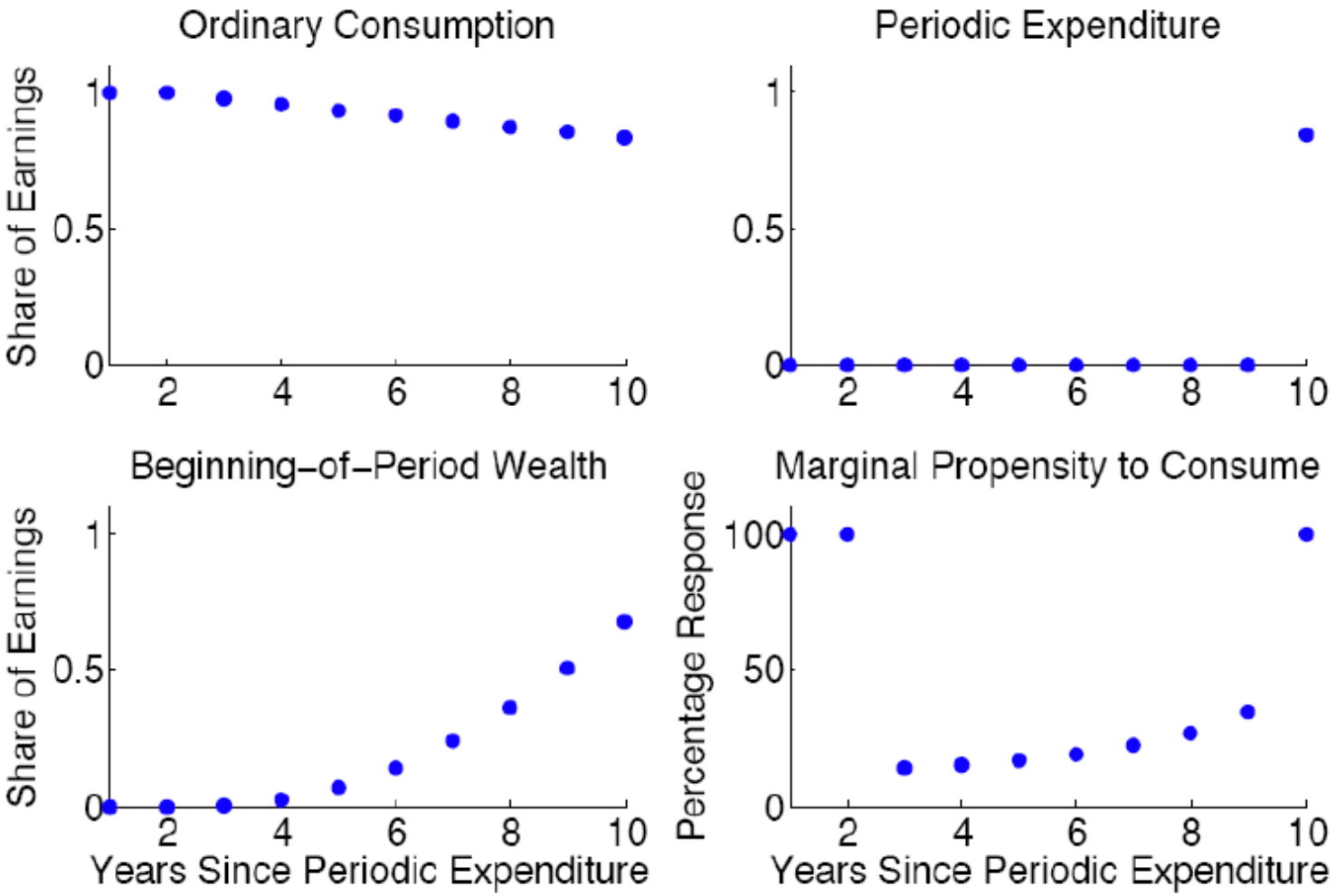
$$C_t = W + RA_t - A_{t+1} - M_t$$

  Stochastic wage is introduced later

- Borrowing constraint:

$$A_{t+1} \geq 0$$

Ergodic Deterministic Cycle



- The wage process (Meghir and Pistaferri (2004)):

$$\begin{aligned} \ln W_t &= \ln W_t^P + \ln W_t^T, \\ \Delta \ln W_t^P &\sim N(0, 0.177^2), \\ \ln W_t^T &= \varepsilon_t + 0.2566\varepsilon_{t-1} \\ \varepsilon_t &\sim N(0, 0.173^2) \end{aligned}$$

- $R = 1.04$, $\beta = 1/1.06$
- Set $\tau = 10$. Then we set μ using SCF data on the average 2001 nonretirement assets/disposable labor income ratio. Sample: age 25-64, positive labor income, excluding top 5% and recipients of UI, Food Stamps and TANF. Average ratio: 0.55. This implies $\mu = 1.0135$

Quantitative Analysis

Marginal Propensities to Consume

$12A/W$	Frequency	Marginal Propensities to Consume out of a One Year Transfer	One Year Tax Cut	Three Year Tax Cut	Five Year Tax Cut
0	7	35	33	54	68
1	8	28	25	47	63
2	8	19	17	41	60
3	7	18	15	40	59
4	7	18	15	41	58
5	8	19	16	41	58
6	7	22	19	43	59
7	7	25	22	46	60
8	7	27	25	47	61
9	6	29	26	48	62
10	5	28	22	48	62
11	4	21	21	47	62
12	4	23	17	46	62
13+	15	20	16	43	61

Concluding Remarks

- Term saving is widespread among middle-class U.S. households.
- Term saving predicts wealth dynamics.
- Adding term saving to the standard precautionary model allows it to reproduce the U-shaped/flat relationship between wealth and the *MPC*
- In our interpretation of the evidence, most middle class households are liquidity constrained to a substantial degree.