

Cash in the Cookie Jar: Did Liquidity Help Families During the Great Recession?

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Abstract

The purpose of this study is to find whether the level of initial liquidity had an impact on household wealth through the Great Recession of 2008. The study uses the Survey of Consumer Finances panel data from 2007-2009. Incidentally, the Federal Reserve Board (FRB) and NORC conducted the first wave of the Survey of Consumer Finances interviews for 2007 as a triennial cross-section right before the advent of the Great Recession that lasted for 18 months after starting at the end of 2007. After that, the FRB and NORC conducted a series of panel re-interviews between July 2009 and January 2010, presenting a unique opportunity to ascertain the impact of decisions during this time to prepare households for future economic uncertainties. Financial advisers often discuss the importance of emergency savings for clients. The level of liquid assets held relative to debt payments or income varies substantially across households. This paper estimates the average marginal effects of the recession on the households' net worth, dividing them into groups based on net worth and level of liquidity and controlling for relevant covariates. The study intends to guide the liquidity needs of families based on findings.

Key Words: Great Recession, Liquidity, Household Finance, Financial Planning

Introduction

This is a working paper to study the impact of liquidity related decisions of households on their net worth during the Great Recession. The Great Recession lasted for 18 months after starting at the end of 2007. The first signs of economic recovery happened in June 2009, as the recession ended. During this period, the average net worth of households fell from \$595,000 (median = \$125,000) in 2007 to \$481,000 (median = \$96,000) in 2009, hurting mostly the high net worth households, with many families losing their jobs, homes, and income (Bricker et al., 2011). There is value in ascertaining the impact of decisions during this time to prepare households for future economic uncertainties. One such decision is the level of liquidity held relative to either debt obligations or household income. This paper finds the average marginal effects of the recession on the households' net worth after dividing them into groups based on net worth and level of liquidity and controlling for relevant covariates based on theory. The study intends to go further and investigate the preliminary findings of the relationship between the levels of liquidity and the change in net worth.

Literature Review

Between May 2007 and March 2008, the Federal Reserve Board and NORC⁴ conducted the first wave of the Survey of Consumer Finances interviews for 2007 as a triennial cross-section (Survey of Consumer Finances, 2009). Thereafter, the Great Recession began in December 2007 and ended in June 2009. The Federal Reserve Board and NORC conducted a series of panel interviews between July 2009 and January 2010, identifying a research opportunity to learn how households changed during the crisis (Bricker et al., 2011). A graph by Kim and Hanna (2016), presented in Figure 1, helps to visualize the survey timing vis-à-vis the recession. A summary of the Wilshire 5000 Total Market Index's day's closing values on the day of the interview is presented in Table 1. Table 1 shows that the Wilshire index value was lower for all respondents during the second wave. However, all respondents in the second wave had witnessed 26 percent to 69 percent growth from the stock market's lowest point. **Figure 1**

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Overlay of the SCF Survey Waves' Dates on the Wilshire 5000 Total Market Index Daily Closing (K. T. Kim & Hanna, 2016)

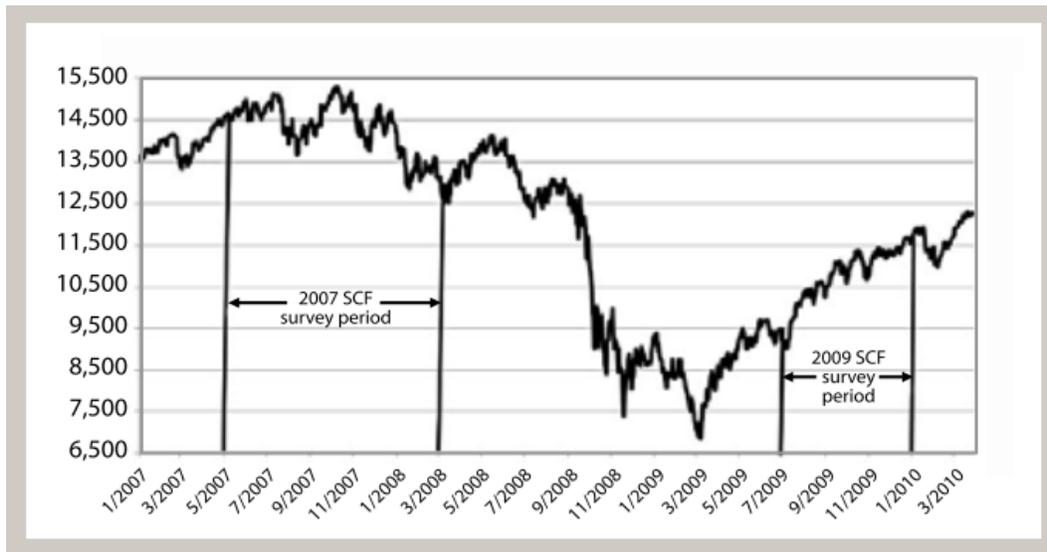
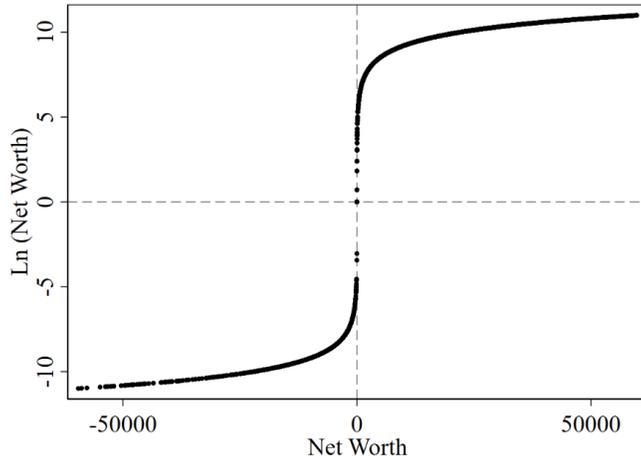


Table 1
Summary of Wilshire 5000 Total Market Index During the SCF 2007-2009 Panel

Variable	M	SD	MIN	MAX
Wilshire 5000 ₍₂₀₀₇₎ (Wave 1: May 07 to Mar 08)	15,155.5	442.1	12,800	15,800
Wilshire 5000 ₍₂₀₀₉₎ (Wave 2: July 09 to Jan 10)	10,570.9	377.6	10,100	11,800
Wilshire (Wave 2 - Wave 1)	-4,584.6	617.9	-5,700	-1,700
Wilshire % diff	-30.2	3.6	-36.1	-12.8

Net Worth. The dependent variable in this study was the natural log of household net worth. Figure 2 presents the plot for the log-modulus transformation of household net worth used in this study (John & Draper, 1980).

Figure 2
Log – Modulus transformation of Net Worth (John & Draper, 1980)



Liquidity. This study uses quintiles of liquidity related ratios based on pre-recession liquidity measures. The first ratio is liquidity by total monthly debt payments, which is calculated by dividing liquid assets by total monthly debt payments. The second liquidity measure is the emergency fund ratio, which is calculated by dividing liquid assets by income. These liquidity measures are interacted with time as independent variables of interest in their respective models to measure the effect of liquidity decisions on household net worth during the recession.

Figure 3

Box plot of |net worth| over quintiles of liquidity / total monthly debt payments. [Median Liquidity (in months of total debt payments) for Quintiles: 1 = 0.09 months, 2 = 1.86 months, 3 = 6.44 months, 4 = 31.1 months, 5 = 3530 months]

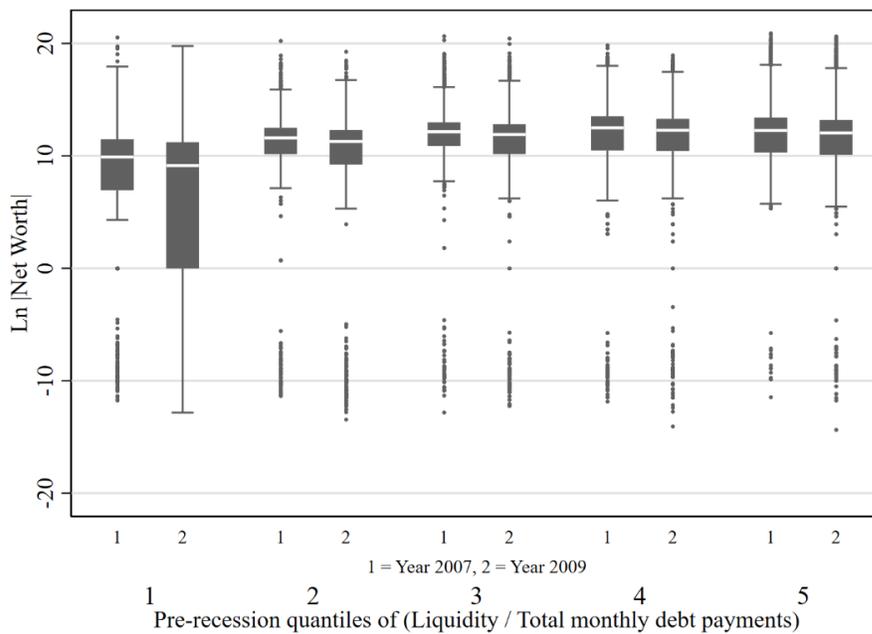
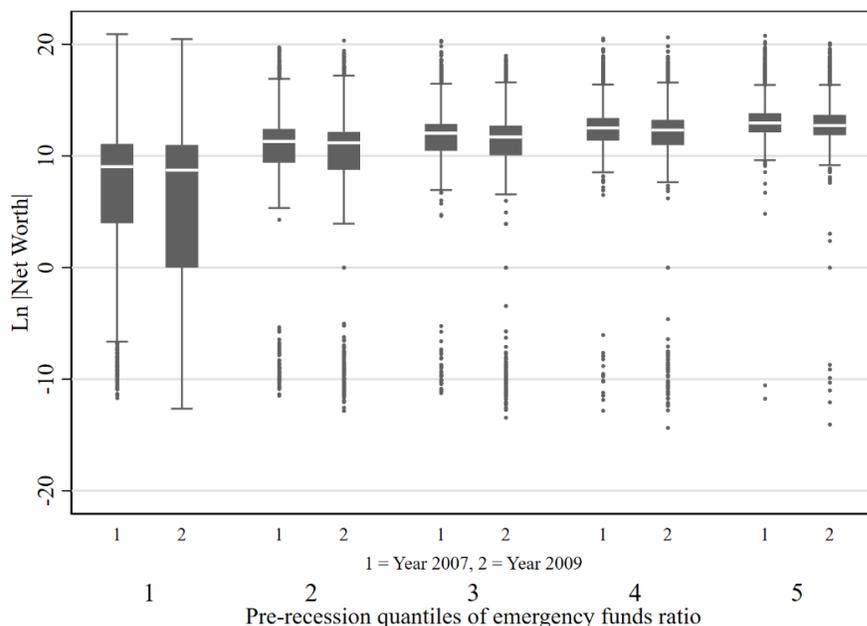


Figure 4

Box plot of |net worth| over quintiles of emergency fund ratio. [Median Emergency Funds (in months of income) for Quintiles: 1 = 0.00 months, 2 = 0.36 months, 3 = 0.96 months, 4 = 2.52 months, 5 = 8.76 months]



Covariates. This study used control variables related to employment and household characteristics, debt management, financial behaviors, and attitudes. There are certain financial attitudes and behaviors that have a positive association with wealth, such as regular savings behavior (Benartzi & Thaler, 2007, 2013; Grable, Joo, & Kruger, 2017), risk tolerance (Finke & Huston, 2003), and information-seeking for household financial decisions (Bogan, 2008; Hong, Kubik, & Stein, 2004; Van Rooij, Lusardi, & Alessie, 2011). Smoking acts as an indicator of investors’ time preference and is negatively associated with wealth (Khwaja, Sloan, & Salm, 2006). Heaton and Lucas (1997) found a positive association between income shocks and increased risk aversion. To control for all such relevant factors, this study controlled for binary variables for unemployment spells, employment type, health, and marital status, and income of the household, in addition to other standard demographics.

Methods

The variable of interest in this study is the time-effect on households in the quintiles of initial liquidity. The study uses the following fixed-effects⁵ model with time-interacted initial-liquidity indicators between the two waves

⁵ The time-demeaned equation is derived from fixed-effects transformation (or within transformation) to eliminate the time-invariant household-level heterogeneity:

$$Y_{it} - \bar{Y}_i = (A_i - \bar{A}_i) \beta_1 + (z_t - \bar{z}_i) \beta_2 + (x_{it} - \bar{x}_i) \beta_3 + (x_i - \bar{x}_i) \beta_4 + [(A_i \times z_t) - (\bar{A} \times \bar{z}_i)] \beta_5 + (W_i - \bar{W}_i) \beta_6 + \lambda_i - \bar{\lambda}_i + \varepsilon_{it} - \bar{\varepsilon}_i$$

$$Y_{it} - \bar{Y}_i = (dropped) \beta_1 + z_t \beta_2 + (x_{it} - \bar{x}_i) \beta_3 + (dropped) \beta_4 + (A_i \times z_t) \beta_5 + (dropped) \beta_6 + (dropped) + \varepsilon_{it} - \bar{\varepsilon}_i$$

$$Y_{it} - \bar{Y}_i = z_t \beta_2 + (x_{it} - \bar{x}_i) \beta_3 + (A_i \times z_t) \beta_5 + \varepsilon_{it} - \bar{\varepsilon}_i$$

Where, λ_i = Individual-level heterogeneity term (unobservable, time-invariant)

$$\hat{Y}_{it} = z_t \beta_1 + x_{it} \beta_2 + (A_i \times z_t) \beta_3 + \varepsilon_{it}$$

Where, $Y = \pm \text{Ln} (|\text{Net worth}| + 1)$
 $t = 07$ for the first wave, 09 for the second wave,
 i = Household level observation
 A_i = Indicator variables for quintiles of liquidity related ratios of interest.
 z_t = Indicator for the average impact of the Great Recession on all households (observation-invariant)
 $A_i \times z_t$ = Time-interacted liquidity indicator for post-recession change related to quintiles of liquidity related ratios of interest
 x_{it} and x_t = Covariates (β_2 represents the coefficients of z_t)
 β_1 , β_2 , and β_3 represent the coefficients of the above terms
 ε_{it} = Stochastic error terms

Adjusting the standard errors. For consistent and unbiased estimations, the Survey of Consumer Finances suggests the use of repeated imputation inference (RII) procedures (Nielsen, 2015; Shin & Hanna, 2016; The Federal Reserve Board, 2014). For the calculation of summary statistics, the study used the “exact method” suggested by SCF (Board of Governors of the Federal Reserve System, 2010; Survey of Consumer Finances, 2009). This study uses the averaging clustered robust standard errors of the coefficients of panel regression results of the five imputates. The study uses the following formula to average the clustered robust standard errors (Pence, 2001; Shin & Hanna, 2016; Wenzlow et al., 2004):

$$\text{Standard Error} = \sqrt{((6/5) * \text{Imputation Variance} + \text{Sampling Variance})} \quad (\text{Equation 1})$$

Results

Table 1 presents the Wilshire 5000 total market index summary during the two waves of interviews, pre-recession and post-recession. Pre-recession wave index ranged from 12,800 to 15,800 (mean = 15,156). Post-recession wave index ranged from 10,100 to 11,800 (mean = 10,571). The index value had dropped for all respondents by an average difference of – 4,585 (-30.2%). Table 2 presents the summary of financial covariates, including income, net worth, total assets, and total debt. The t-tests show that total income, net worth, and assets fell on average, and debt rose on average for the households in the study. Table 3 and Table 4 present the levels of liquidity and the number of households in the quintiles for liquidity by total monthly debt payments and the quintiles of emergency fund ratio, respectively. Table 5 presents the summary of net worth and the number of households in the five net worth categories defined by SCF. Tables 6 and 7 present the number of households in the five net worth categories in the two liquidity ratios of interest, respectively. Table 8 presents the summary of Financial Attitudes and Behaviors, Employment and Household Characteristic variables, and Debt and Credit Management. The percentage of households that were not risk averse, those having a long-term horizon, and the regular savers fell significantly. The percentage of homeowners increased to 70.3 percent from 68.9 percent. The percentage of salaried households fell to 55.3 percent sharply from 61.2 percent, while the self-employed rose slightly.

Table 2
Summary of Financial Covariates ⁶

Variable [n=3856]	<i>M</i> ⁷	<i>SD</i>	<i>Mdn</i> ⁸	<i>Min</i>	<i>Max</i>
Income					
Wave 1 [07]	\$ 88,487	(415,275)	50,054	\$ 639.0	1.88E+08
Wave 2 [09]	\$ 81,143	(230,831)	49,810	\$ 897.0	7.10E+07
Diff (09 - 07)	-8,286	(372,703)	103	-1.88E+08	4.56E+07
SE	(699.60)			t = -11.93***	(p = .000)
Net Worth					
Wave 1 [07]	\$ 593,686	(3,531,897)	125,682	-1,428,545	1.30E+09
Wave 2 [09]	\$ 479,706	(2,897,048)	96,690	-1,720,000	9.17E+08
Diff (09 - 07)	-\$ 113,980	(2,295,110)	11,380	-6.95E+08	6.27E+08
SE	(5087.20)			t = -22.41***	p = .000
Total Assets					
Wave 1 [07]	\$ 709,537	(3,618,251)	233,881	\$ 1.0	1.30E+09
Wave 2 [09]	\$ 595,376	(2,981,828)	204,758	\$ 1.0	9.19E+08
Diff (09 - 07)	-113,650	(2,308,222)	-10,614	-6.90E+08	6.26E+08
SE	(5285.60)			t = -21.60***	p = .000
Liquidity in 2007	\$ 26,317	(252,775)	\$ 4,142	1.036	9.73E+07
Liquidity by Total Monthly Debt Payments in 2007	8271.5	179456.5	8.42	.0001	8.39E+07
Emergency Fund Ratio in 2007	72.5	9421.10	.077	.00001	8015526
Total Debt					
Wave 1 [07]	\$ 128,708	(210,412)	\$ 70,365	7.2	8.93E+07
Wave 2 [09]	\$ 134,205	(226,524)	\$ 75,660	1.0	4.38E+07
Diff (09 - 07)	5520	(161,448)	-1,126	-5.20E+07	2.80E+07
SE	(2466.7)			t = 2.22*	p = .027

Note. $p < .1$, * $p < .05$, *** $p < .01$, **** $p < .001$

Table 3
Summary of Quintiles of Liquidity by Total Monthly Debt Payments in 2007

	N	p50	Mean	sd	min	max
1	1172	0.09	0.21	0.2586	0.0	0.8
2	1310	1.86	1.92	0.7170	0.8	3.4
3	1438	6.44	6.96	2.6745	3.4	12.9
4	1778	31.07	43.89	32.9680	13.0	155.9
5	2016	3530	38299	384978	158.7	83900000.0

⁶ The results are rounded-off averages of the five implicates, calculated separately for each implicate using sample weight (P42001), as suggested by the Board of Governors of the Federal Reserve System. Following SCF, we averaged the assets, income, and debt variables for households that had positive assets, income, and debt respectively, excluding the households with zero values.

⁷ Means in the Wave 2 [09] and Wave 1 [07] were tested with t-tests with null hypothesis H0: The means are not statistically different

⁸ Medians in the Wave 2 [09] and Wave 1 [07] were tested with non-parametric tests: (1) Wilcoxon rank-sum test (Mann & Whitney, 1947; Wilcoxon, 1992), H0: The distributions of the financial variables in the two waves are not statistically different and (2) the Nonparametric equality-of-medians test with null hypothesis H0: The medians are not statistically different.

Table 4
Summary of Quintiles of Emergency Funds Ratio in 2007

	N	p50	mean	sd	min	max
1	1536	0.00	0.00	0.0050	0.0	0.0
2	1538	0.03	0.03	0.0115	0.0	0.1
3	1546	0.08	0.09	0.0216	0.1	0.1
4	1536	0.21	0.22	0.0704	0.1	0.4
5	1558	0.73	448.73	23445.95	0.4	8015526.0

Table 5
Summary of Net Worth by Net Worth Categories in 2007¹

	N	p50	mean	sd	min	max
1	716	1558.6	-2188.3	21973.4	367844.3	15471.8
2	669	58324.9	62372.4	32792.6	15585.7	125421.2
3	666	234252.2	237301.2	71186.9	125514.4	387831.3
4	484	605824.6	626812.5	160763.6	388659.8	967911.0
5	1322	2014237.0	4229399.0	11000000.0	971597.7	1200000000.0

Table 6
Number of households by net worth categories and quintiles of liquidity /total debt payment in 2007

05 Quintiles of Liquidity by Total Monthly Debt Payments in 07						
NW Categories 07	1	2	3	4	5	Total
1	272	118	102	116	108	716
2	177	176	121	91	104	669
3	72	173	168	128	125	666
4	30	76	133	144	101	484
5	35	112	195	410	570	1,322
Total	586	655	719	889	1,008	3,857

Table 7
Number of households by net worth categories and quintiles of emergency funds in 2007

05 Quintiles of Emergency Funds in 07						
NW Categories 07	1	2	3	4	5	Total
1	375	176	99	55	11	716
2	175	195	146	102	51	669
3	74	146	178	144	124	666
4	29	70	113	147	125	484
5	115	182	237	320	468	1,322
Total	768	769	773	768	779	3,857

Table 8
 Summary of Financial Attitudes and Behaviors, Debt and Credit Management, and Employment and Household Characteristic Variables

Variable n=3,856	Wave 1 [07]		Wave 2 [09]		t [09 – 07]
	M	SD	M	SD	
Financial Attitudes and Behaviors					
Not Risk Averse	69.90%	(.0074)	64.32%	(.0077)	-7.50***
Regular Saver	45.81%	(.0080)	39.33%	(.0079)	-7.07***
Used the Internet for advice	30.72%	(.0074)	32.20%	(.0075)	1.76*
Sought Friends' advice	39.49%	(.0079)	39.49%	(.0077)	-3.73***
Have Health Insurance	93.93%	(.0038)	93.80%	(.0039)	-0.32
Smoker in HH	22.19%	(.0067)	21.90%	(.0067)	1.34
Long term Horizon for SI	20.30%	(.0065)	16.36%	(.0060)	-5.16***
Debt and Credit Management					
Credit Card Transactor	53.90%	(.0080)	53.15%	(.0080)	-1.20
Denied Loan	13.38%	(.0055)	10.45%	(.0049)	-4.85***
Fear denial of loan	11.64%	(.0052)	13.51%	(.0055)	3.25***
Homeowner	68.90%	(.4600)	70.30%	(.4600)	2.91*
Employment and Household Characteristics					
Salaried	51.75%	(.0080)	46.20%	(.0080)	-9.24***
Self-Employed	24.42%	(.0069)	24.92%	(.0070)	1.03
Unemployment Spell	11.69%	(.0052)	16.98%	(.0060)	7.98***
Poor health in HH	5.70%	(.0037)	5.26%	(.0036)	-3.55***
Number of children	0.88	(.0193)	0.84	(.0192)	-3.42***
Married	68.52%	(.0075)	63.37%	(.0078)	-10.6***

#p < .1, *p < .05, ***p<.01, ****p<.001

Regression Results. Table 9A presents the results for the variables of interest, quantiles of the ratio of liquidity by total monthly debt payments interacted with year, along with all other covariates. The coefficients present relative change in the log of net worth in reference to the base category and the main year effects. However, Table 9B and Figure 5 present the average marginal effects of the year on the log of net worth for all quintiles at different levels of initial net worth. It is clear that in the lowest net worth households having no liquidity before the recession resulted in better outcomes than having too much liquidity. Households with the highest liquidity lost more net worth than any other household in the lowest net worth category. While in wealthier households, the loss of net worth was higher for those with lower liquidity. Wealthier households with a lot of liquidity were able to sustain the recession much better. The only exception to the finding is with the households with nearly no liquidity and the highest two wealth categories that present with a variation that is inconclusive on the impact of the recession on their net worth.

Table 9A
 Fixed effect regression models – Ln Net Worth (Covariate: Liquidity by Total Monthly Debt Payments)

Ln Net worth	Net Worth Categories in 2007						
	All	1	2	3	4	5	
	Coefficien t	Coefficien t	Coefficien t	Coefficien t	Coefficien t	Coefficien	
Quintiles of Liquidity by Total Monthly Payments	2	-1.21*	-3.33**	-0.45	1.13	1.02	1.72
	3	-0.01	-0.86	1.35	1.02	1.36	1.74

x Year	4	0.22	-3.02**	1.74*	2.12*	1.37	1.76
Ref: 1	5	-0.11	-4.03***	1.59*	2.09*	1.16	1.79
Year 2009 (Ref: 2007)		-0.73	1.68**	-2.91***	-2.49**	-1.61	-2.09
Ln Income		0.08	0.28	0.27	-0.02	0.15***	0.01
Not Risk Averse		0.66*	0.93	1.17	-0.40	0.22	0.21*
Credit Card							
Transactor		1.26***	3.16***	1.48*	0.39	0.23	0.24
Regular Saver		0.34	1.30	0.29	0.10	0.11	-0.02
Internet		-0.27	-0.96	-0.36	0.01	-0.15	-0.07
Friends/ Coworkers		-0.18	-0.91	0.09	-0.14	-0.25	-0.02
Denied Loan		-0.49	-2.29**	0.26	-0.09	-0.30	0.01
Feared denial of loan		-0.50	0.53	-0.96	-0.91	0.26	-0.02
Have a house		1.84**	1.98	2.22*	-0.65	2.25	0.84
Smoker in HH		-2.25	-8.62*	-1.66	0.20	-1.60	0.06
Long Term Horizon		-0.11	0.44	-0.71	0.12	-0.07	0.05
Salaried Worker		0.73	2.16*	0.54	-0.62	-0.10	0.17
Self Employed		1.35**	2.39	2.58*	-0.30	0.72	0.59
Unemployment Spell		-0.78*	-1.76**	-0.15	0.31	0.15	-0.35**
Bad Health in HH		0.05	-18.42***	2.29	Omitted	-1.74*	0.10
Have Kids		-0.39	-1.31*	-0.08	0.03	0.15	-0.02
Married		-0.75	-0.63	-1.25	-0.44	-1.18	-0.09
Intercept		8.61***	5.57	7.13	14.21**	10.98***	13.35***
N		7308	1254	1254	1,284	928	2,582
Groups		3651	627	627	642	464	1,291
F		6.94	4.48	4.15	2.35	4.44	10.93
P-Value		0.0000	0.0000	0.0000	0.0006	0.0000	0.0000
R-Squared (Within)		0.0716	0.1400	0.1989	0.0978	0.1810	0.2527

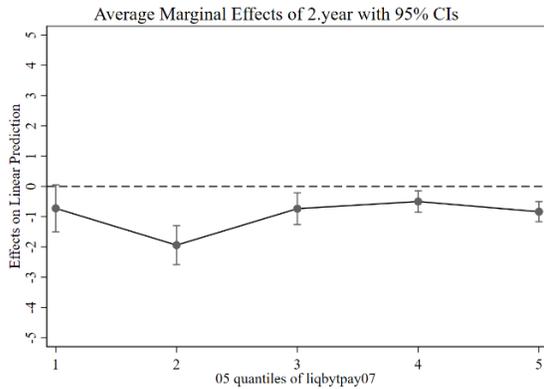
Table 9B

Average Marginal Effects of Recession on Ln Net worth for households at different quintiles of liquidity by Total Monthly Debt Payments

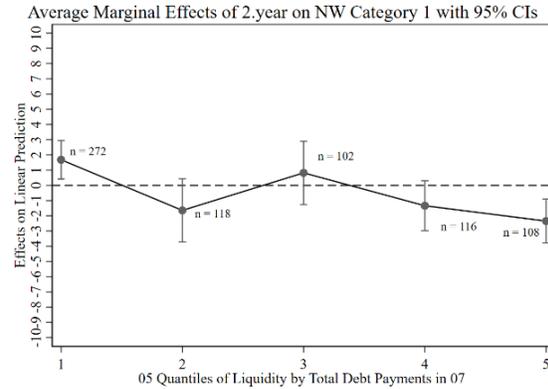
	Net Worth Categories in 2007					
	All	1	2	3	4	5
1	-0.73	1.68**	-2.91***	-2.49**	-1.61	-2.09
2	-1.94***	-1.65	-3.37***	-1.36***	-0.59**	-0.37***
3	-0.74**	0.82	-1.56**	-1.48***	-0.25*	-0.36***
4	-0.5**	-1.34	-1.17**	-0.38	-0.24***	-0.33***
5	-0.84***	-2.35***	-1.32**	-0.4**	-0.44*	-0.3***

Figure 5

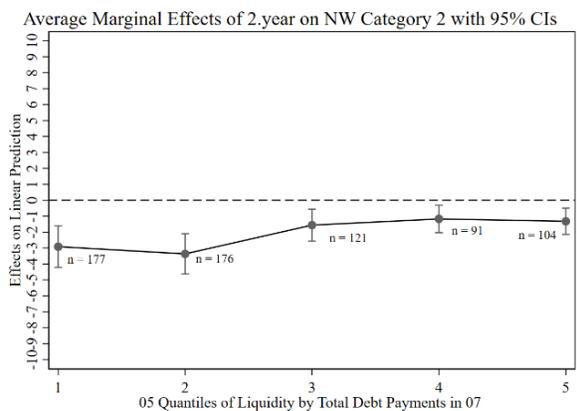
Average marginal effect of recession on the Ln Net worth for households in the 5 Quintiles of Liquidity by Total Payments in 2007. [Median Liquidity (in months of total debt payments) for Quintiles: 1 = 0.09 months, 2 = 1.86 months, 3 = 6.44 months, 4 = 31.1 months, 5 = 3530 months]



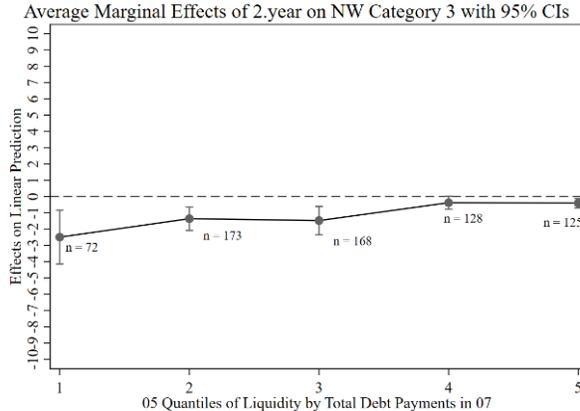
All NW Categories



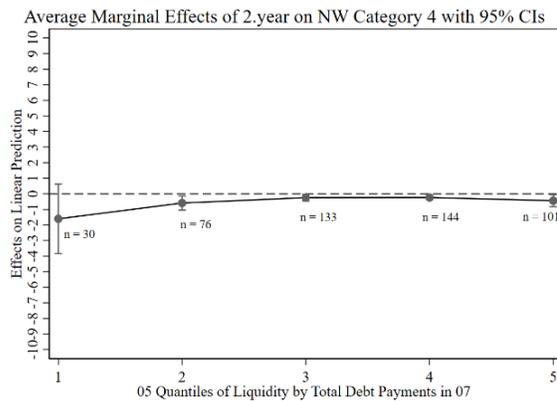
NW Category 1 (- \$ 0.36 to 0.015 Million)



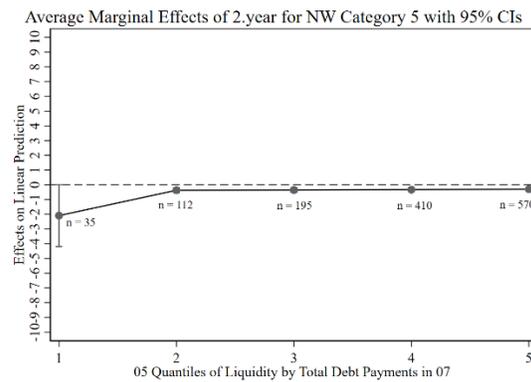
NW Category 2 (\$ 0.015 to 0.12 Million)



NW Category 3 (\$ 0.12 to 0.39 Million)



NW Category 4 (\$ 0.39 to 0.97 Million)



NW Category 5 (\$ 0.97 to 1200 Million)

Table 10A presents the results for the second variables of interest, quantiles of emergency funds ratio interacted with year, along with all other covariates. The coefficients present relative change in the log of net worth in reference to the base category and the main year effects. However, Table 10B and Figure 6 present the average marginal effects of the year on the log of net worth for all quintiles at different levels of initial net worth. Among the poorest households (net worth category 1), only the households with 2.52 months of median emergency funds (quintile 4) were the ones most negatively impacted by the recession. Almost all other households were significantly negatively impacted by the recession. An exception to the finding was households with a net worth between \$ 0.39 to 0.97 million and emergency

funds for 2.52 months (median). These households were not negatively impacted by the recession the same way as the others.

Table 10A

Fixed effect regression models – Ln Net Worth (Covariate: Emergency Funds Ratio)

Ln Net worth	Net Worth Categories in 2007					
	All HH Coefficien t	1 Coefficien t	2 Coefficien t	3 Coefficien t	4 Coefficien t	5 Coefficien t
Quintiles of Emergency Funds x Year Ref: 1	2 -0.48	-1.44	0.96	1.07	-0.70	-0.29
	3 -0.39	-1.16	0.87	0.55	-0.20	-0.11
	4 -0.17	-3.60**	1.04	1.22	0.03	-0.08
	5 0.29	-0.76	0.91	1.47	-0.02	-0.11
Year 2009 (Ref: 2007)	-0.78*	0.69	-3.01***	-2.04**	-0.27	-0.23*
Ln Income	0.06	0.27	0.27	-0.10	0.15***	0.01
Not Risk Averse	0.66*	0.75	1.28*	-0.34	0.24	0.21*
Credit Card Transactor	1.25***	3.16***	1.56*	0.36	0.25*	0.29*
Regular Saver	0.34	1.20	0.31	0.10	0.05	0.01
Internet	-0.25	-0.77	-0.48	0.05	-0.11	-0.09
Friends/ Coworkers	-0.19	-0.82	0.11	-0.12	-0.30	-0.01
Denied Loan	-0.45	-2.34**	0.30	-0.07	-0.39	0.08
Feared denial of loan	-0.54	0.50	-1.12	-0.89	-0.08	-0.08
Have a house	1.84**	1.67	2.46**	-0.64	2.37	0.82
Smoker in HH	-2.34	-9.47**	-0.98	-0.01	-1.69	0.01
Long Term Horizon	-0.10	0.51	-0.64	0.02	-0.09	0.06
Salaried Worker	0.67	1.98*	0.39	-0.62	-0.09	0.12
Self Employed	1.27**	2.66	2.46*	-0.31	0.73*	0.59
Unemployment Spell	-0.75*	-1.82**	-0.22	0.33	0.08	-0.39**
Bad Health in HH	-0.15	-17.76***	1.64	Omitted	-1.81*	0.06
Have Kids	-0.39	-1.35*	-0.04	0.06	0.20	0.01
Married	-0.76	-0.56	-1.59	-0.44	-1.25	-0.13
Intercept	8.91***	6.10	7.36	15.08**	10.93***	13.28***
N	7302	1254	1254	1,284	926	2582
Groups	3651	627	627	642	464	1291
F	7.04	3.84	4.05	2.36	4.12	10.77
P-Value	0.0000	0.0000	0.0000	0.0006	0.0000	0.0000
R-Squared (Within)	0.0664	0.1225	0.1863	0.0844	0.1702	0.2073

Table 10B

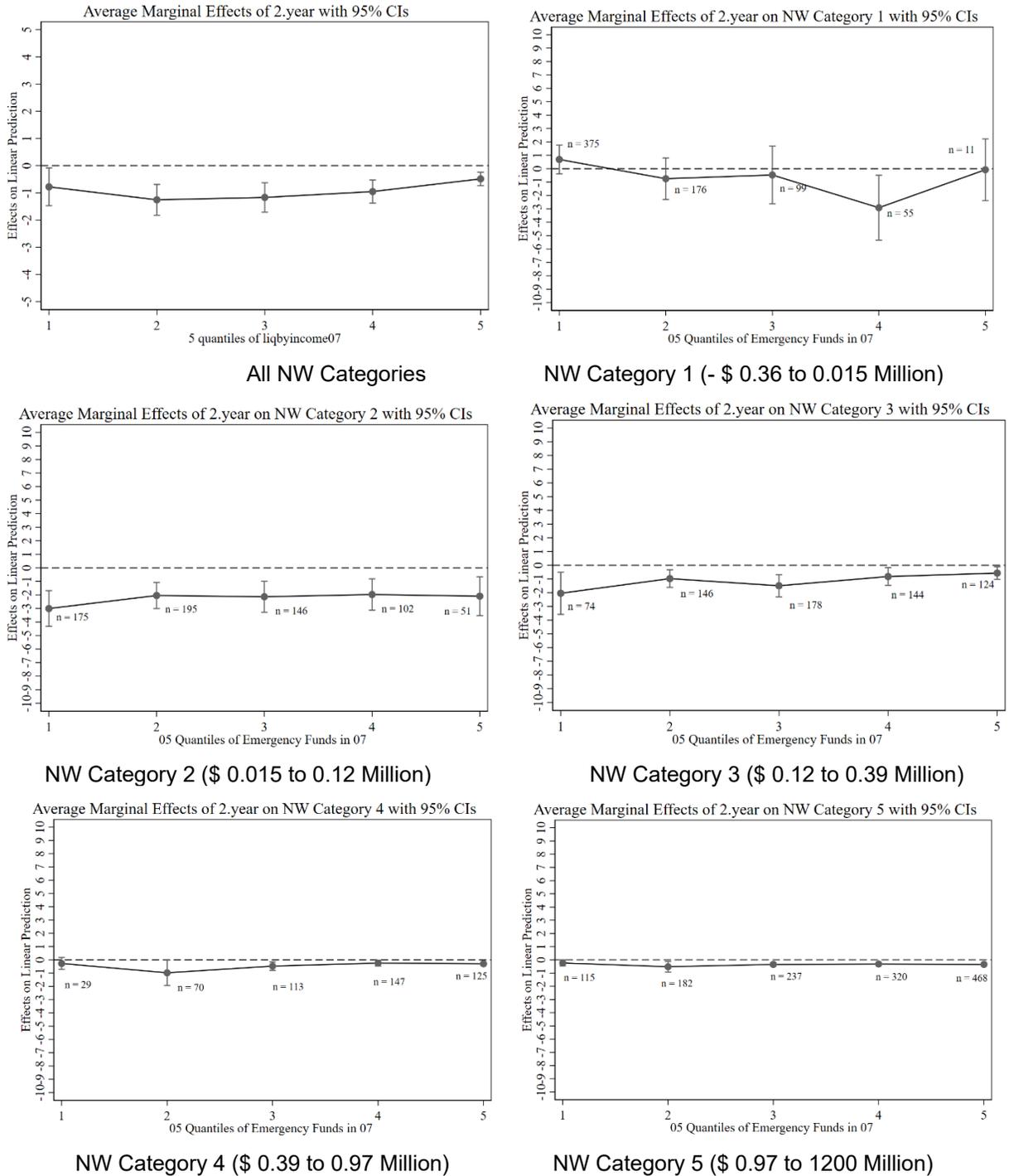
Average Marginal Effects of Recession on Ln Net worth for households at different quintiles of Emergency Funds Ratio

	All	1	2	3	4	5
1	-0.78*	0.69	-3.01***	-2.04**	-0.27	-0.23*
2	-1.25***	-0.75	-2.04***	-0.97**	-0.98*	-0.52*
3	-1.17***	-0.47	-2.14***	-1.49***	-0.47**	-0.34***
4	-0.95***	-2.92*	-1.97***	-0.82*	-0.25*	-0.32***

5	-0.49***	-0.08	-2.09**	-0.57*	-0.3***	-0.34***
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Figure 6

Average marginal effect of recession on the Ln Net worth for households in the 5 Quintiles of Liquidity by Income in 2007. [Median Emergency Funds (in months of income) for Quintiles: 1 = 0.00 months, 2 = 0.36 months, 3 = 0.96 months, 4 = 2.52 months, 5 = 8.76 months]



Among other covariates, the recession seemed to have negatively impacted households with a net worth between \$ 15,000 and \$390,000. Higher income had a positive impact on households with net worth starting from \$ 390,000 to \$ 970,000. Paying off credit card bills was good for almost all households. Denial of loans was bad for the poorest category. New homeownership was great for households with a net worth between \$ 15,000 and \$390,000. Smoking and bad health negatively impacted the poorest households.

Discussion

Financial advisers have been advocating for emergency funds for families, mostly using liquid assets. It is understandable that families need funds to get through emergencies. Many approaches have gathered popularity over the years, but none have questioned the ill-effects of liquidity on wealth during economic downturns. Can a blanket approach of one size fit all households? This study found that different levels of initial liquidity ratios had a significantly different impact on households based on their initial wealth category during the recession. It seems that higher liquidity was a better decision for wealthier households but not for the poorest category. Having emergency funds of 2.5 months had the opposite impact on poor vs. wealthier households. This study does not offer a solution but intends to instigate future research into the matter. It is important to find the reasons behind the differences in recessionary impacts due to cash held by families. As part of future research, this paper intends to uncover solutions and refine the questions.

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