

ONLINE APPENDIX

Existing Methods Provide Unreliable Estimates of the Marginal Value of Cash

Table 1: Summary statistics of firm characteristics

Description: This table reports summary statistics of firm characteristics for the full sample and for subsamples partitioned by increase in cash and decrease in cash. Data on firm characteristics are from the *Compustat* database. The sample period is 1972–2017. Accumulate (Spend) subsamples include firms with positive (negative) change in cash over the next fiscal year. Variables are defined in Appendix B.

Interpretation: The main characteristics of our sample are comparable to those in other studies that use the sample.

	Full sample		Accumulate		Spend	
	Mean	Median	Mean	Median	Mean	Median
Total book assets	2060	260	2184	295	2052	258
Market equity	1492	176	1628	207	1447	172
Cash	0.237	0.106	0.185	0.077	0.274	0.137
Change in cash	-0.010	0.000	-0.018	-0.001	0.003	0.005
Tobin's Q	1.582	1.233	1.617	1.249	1.538	1.211
Total debt/total book assets	0.246	0.221	0.243	0.221	0.246	0.222
Leverage	0.889	0.303	0.832	0.294	0.892	0.309
Net investments	0.028	0.007	0.031	0.008	0.032	0.009
Earnings	0.033	0.078	0.062	0.082	0.041	0.079
Research and development	0.030	0.000	0.029	0.000	0.031	0.000

Online Appendix Table 2: Correlation matrix of change in value and change in cash with financing variables

Description: This table reports a correlation matrix of the excess stock returns and the change in cash with financing variables. Data on firm characteristics are from the *Compustat* database. The sample period is 1972–2017. Variables are defined in Appendix B. Correlation coefficients reported with p-values for the significance in parentheses.

Interpretation: The components of Net Financing – purchases of stock, sales of stock, issuances and reductions of long-term debt – exhibit varying correlations with excess stock returns and change in cash, prompting these components to enter as separate variables in the regression.

	Excess stock return	Change in cash	Purchases of stock	Sales of stock	Issuances of long- term debt	Reductions of long- term debt
Change in cash	0.179 (0.00)	1				
Purchases of stock	0.045 (0.00)	-0.052 (0.00)	1			
Sales of stock	0.120 (0.00)	0.172 (0.00)	-0.033 (0.00)	1		
Issuances of long-term debt	-0.001 (0.76)	0.028 (0.00)	0.010 (0.00)	0.037 (0.00)	1	
Reductions of long-term debt	0.002 (0.63)	0.009 (0.01)	0.009 (0.01)	0.035 (0.00)	0.956 (0.00)	1
Net financing	0.031 (0.00)	0.134 (0.00)	-0.164 (0.00)	0.401 (0.00)	0.235 (0.00)	-0.032 (0.00)

Online Appendix Table 3:

Description: This table reports the results of regressions of spread of value over cost on levels and changes in firm characteristics over past and future years following Fama and French (1998). Data on firm characteristics are from the *Compustat* database. The sample period is 1972–2017. Regressions are estimated using ordinary least squares. Accumulate (increase) samples include only observations with positive change in cash over the fiscal year, and spend (decline) samples include observations with negative change in cash over the fiscal year. Standard errors are clustered at the firm level. Coefficient estimates are reported with standard errors in parentheses. ***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Interpretation: The estimates of the marginal value of cash violate the equality proposition, which stipulates that the marginal value of cash of a dollar lost should be equal to the marginal value of cash when that dollar is gained. Specifically, the estimates during cash accumulation episodes are significantly different from the estimates during cash spending episodes. The exceptions are the regression that uses positive excess cash measure in the unwinsorized sample, and the regressions that use excess cash measures in the winsorized sample. The former is the only one that provides reasonable estimates of the value of cash. This evidence indicates that the modified Fama-French methodology used to produce these estimates may provide reasonable estimates in limited instances.

Outliers included						
Sample	All observations		All observations		Positive excess cash	
	Decline	Increase	Decline	Increase	Decline	Increase
Cash	-0.183*	1.287***				
	(0.102)	(0.297)				
Excess cash			-0.052	0.255**	0.245	0.366
			(0.088)	(0.100)	(0.189)	(0.259)
P-value (dec vs inc)	0.00		0.02		0.71	
Observations	50119	52235	45057	47412	20726	30282
Adjusted R-squared	0.3778	0.5513	0.3538	0.514	0.4871	0.5527

Winsorized						
Sample	All observations		All observations		Positive excess cash	
	Decline	Increase	Decline	Increase	Decline	Increase
Cash	0.492*** (0.131)	0.958*** (0.144)				
Excess cash			-0.198*** (0.020)	-0.229*** (0.026)	-0.633*** (0.072)	-0.548*** (0.060)
P-value (dec vs inc)	0.02		0.36		0.34	
Observations	50119	52235	45057	47412	20882	30590
Adjusted R-squared	0.3447	0.4102	0.3446	0.3934	0.3293	0.3574