

ONLINE APPENDIX

TABLE A1
Controlling for Fama-French (2015) Return Factors

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Univariate	<i>Loss Sample: Monthly Stock Returns (× 100)</i>			FF 5-factor	Univariate	<i>Profit Sample: Monthly Stock Returns (× 100)</i>			FF 5-factor
		FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor		FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor
X/P _t	0.593 (1.00)	0.823* (1.86)	0.742* (1.82)	0.792* (1.90)	0.700* (1.76)	19.521*** (17.89)	19.429*** (19.63)	19.464*** (19.59)	19.533*** (19.96)	19.562*** (19.84)
RM		1.074*** (20.54)	0.974*** (15.46)	1.076*** (23.34)	0.980*** (15.72)		0.999*** (70.40)	0.983*** (54.53)	0.998*** (52.11)	0.985*** (36.94)
SMB		1.360*** (17.03)	1.082*** (9.30)	1.339*** (14.55)	1.167*** (11.33)		0.717*** (26.11)	0.689*** (20.58)	0.719*** (18.53)	0.707*** (15.07)
HML		0.315*** (3.24)	0.196 (1.29)	0.305*** (3.21)	0.188 (1.06)		0.142*** (4.09)	0.123*** (2.91)	0.176*** (4.13)	0.188*** (3.06)
RMW			-0.727*** (-3.58)		-0.486** (-2.46)			-0.090** (-2.12)		-0.114* (-1.73)
CMA			0.216 (1.14)		0.137 (0.60)			-0.045 (-1.12)		-0.089 (-1.25)
RM × TIME				-0.009 (-0.11)	-0.028 (-0.30)				0.002 (0.10)	-0.010 (-0.31)
SMB × TIME				-0.018 (-0.13)	-0.170 (-1.12)				0.010 (0.24)	0.010 (0.21)
HML × TIME				-0.010 (-0.06)	0.043 (0.15)				-0.063 (-1.43)	-0.129* (-1.73)
RMW × TIME					-0.297 (-1.05)					0.052 (0.55)
CMA × TIME					0.077 (0.25)					0.104 (0.93)
TIME				1.223*** (3.77)	1.356*** (3.92)				-0.412*** (-4.07)	-0.476*** (-4.22)
Intercept	-0.601 (-1.54)	-1.514*** (-7.01)	-1.023*** (-3.88)	-2.163*** (-11.77)	-1.788*** (-7.93)	-0.447* (-1.80)	-1.172*** (-12.49)	-1.093*** (-11.03)	-1.004*** (-8.78)	-0.880*** (-7.23)
N	456,857	456,857	456,857	456,857	456,857	1,220,586	1,220,586	1,220,586	1,220,586	1,220,586
R ²	0.2%	12.3%	12.9%	12.6%	13.3%	1.1%	16.2%	16.3%	16.3%	16.4%
Fama-MacBeth Estimation	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly

Note: This table presents the estimates of equation (8).

$$Ret_{it,m} = \delta_0 + \delta_1 X/P_{it} + \beta_1 RM_{t,m} + \beta_2 SMB_{t,m} + \beta_3 HML_{t,m} + \beta_4 RMW_{t,m} + \beta_5 CMA_{t,m} + \beta_6 RM_{t,m} \times TIME + \beta_7 SMB_{t,m} \times TIME + \beta_8 HML_{t,m} \times TIME + \beta_9 RMW_{t,m} \times TIME + \beta_{10} CMA_{t,m} \times TIME + \beta_{11} TIME + \varepsilon_{it,m} \quad (8)$$

where the dependent variable $Ret_{it,m}$ is monthly returns (in percentage points) in excess of the risk-free rate for firm i , year t , and month m . The main explanatory variable is X/P_{it} (earnings scaled by lagged price). The Fama-French (2015) five factors include $RM_{t,m}$ (monthly market excess returns), $SMB_{t,m}$ (small minus big), $HML_{t,m}$ (high minus low), $RMW_{t,m}$ (robust minus weak), and $CMA_{t,m}$ (conservative minus aggressive). $TIME$ is a time variable that equals 0 for the first fiscal quarter, 0.333 for the second fiscal quarter, 0.667 for the third fiscal quarter, and 1 for the last fiscal quarter. X/P_{it-1} is one-year lagged earnings. Fiscal year ends at the month of the fourth-quarter earnings announcement. The regressions are estimated annually based on the Fama-MacBeth (1973) approach. t -statistics are presented in parentheses, and ***, **, * represent statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Stock returns are not winsorized or trimmed.

TABLE A2
Controlling for Risk Information in Annual Returns

Panel A. Estimating the ERC of losses

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	<i>Loss Sample: Monthly Stock Returns ($\times 100$)</i>											
	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor
X/P _t	2.270*** (8.53)	2.291*** (8.47)	2.458*** (9.98)	2.365*** (9.43)	3.129*** (14.28)	3.145*** (14.37)	3.368*** (11.12)	3.382*** (11.16)	3.290*** (12.89)	3.150*** (12.17)	3.182*** (14.10)	3.202*** (14.15)
X/P _{t-1}							-4.166*** (-15.55)	-4.096*** (-15.38)	-3.849*** (-13.43)	-3.775*** (-12.73)	-8.269*** (-6.11)	-7.433*** (-5.43)
RM	1.084*** (38.10)	1.009*** (26.56)	1.118*** (38.23)	1.025*** (28.26)	1.093*** (38.93)	1.018*** (28.24)	1.083*** (37.93)	1.008*** (26.49)	1.120*** (38.25)	1.029*** (28.33)	1.092*** (38.80)	1.018*** (28.09)
SMB	1.263*** (27.89)	1.089*** (19.29)	1.268*** (29.59)	1.057*** (18.92)	1.222*** (27.76)	1.048*** (19.69)	1.256*** (27.70)	1.086*** (19.25)	1.270*** (29.32)	1.066*** (18.95)	1.212*** (27.49)	1.038*** (19.25)
HML	0.256*** (5.54)	0.168** (2.22)	0.259*** (5.53)	0.214*** (2.81)	0.260*** (5.59)	0.146* (1.89)	0.262*** (5.67)	0.179** (2.35)	0.251*** (5.36)	0.203*** (2.68)	0.255*** (5.50)	0.144* (1.85)
RMW		-0.427*** (-3.96)		-0.500*** (-4.69)		-0.551*** (-5.60)		-0.418*** (-3.87)		-0.500*** (-4.69)		-0.538*** (-5.40)
CMA		0.133 (1.17)		0.016 (0.13)		0.076 (0.68)		0.132 (1.16)		0.012 (0.10)		0.075 (0.66)
RM \times TIME	0.022 (0.48)	-0.036 (-0.62)	-0.030 (-0.60)	-0.062 (-1.03)	0.020 (0.46)	-0.048 (-0.86)	0.025 (0.55)	-0.029 (-0.50)	-0.034 (-0.68)	-0.069 (-1.15)	0.018 (0.41)	-0.050 (-0.91)
SMB \times TIME	0.043 (0.59)	-0.147 (-1.58)	0.019 (0.28)	-0.177* (-1.84)	0.062 (0.91)	-0.125 (-1.41)	0.057 (0.78)	-0.132 (-1.41)	0.013 (0.18)	-0.198** (-2.02)	0.067 (0.99)	-0.112 (-1.26)
HML \times TIME	-0.010 (-0.13)	0.042 (0.31)	-0.033 (-0.41)	-0.021 (-0.17)	-0.044 (-0.59)	0.064 (0.53)	-0.016 (-0.21)	0.023 (0.17)	-0.016 (-0.20)	-0.002 (-0.02)	-0.039 (-0.52)	0.060 (0.49)
RMW \times TIME		-0.563*** (-3.24)		-0.552*** (-3.12)		-0.577*** (-3.44)		-0.580*** (-3.31)		-0.561*** (-3.15)		-0.603*** (-3.59)
CMA \times TIME		-0.044 (-0.23)		0.032 (0.16)		-0.149 (-0.87)		-0.043 (-0.23)		0.052 (0.27)		-0.148 (-0.86)
TIME	1.219*** (7.82)	1.493*** (6.99)	1.442*** (9.25)	1.591*** (6.99)	1.312*** (8.69)	1.472*** (7.19)	1.164*** (7.38)	1.431*** (6.65)	1.404*** (8.99)	1.566*** (6.84)	1.230*** (8.11)	1.432*** (6.97)
Intercept	-1.784*** (-18.11)	-1.526*** (-11.41)	-1.886*** (-18.12)	-1.533*** (-11.07)	-1.730*** (-17.03)	-1.381*** (-10.58)	-1.767*** (-17.72)	-1.513*** (-11.39)	-1.900*** (-18.41)	-1.554*** (-11.19)	-1.877*** (-13.92)	-1.573*** (-10.01)
N	456,857	456,857	457,118	457,118	457,209	457,209	456,857	456,857	457,118	457,118	457,209	457,209
R ²	16.4%	18.4%	16.2%	18.2%	16.3%	18.3%	16.9%	18.9%	16.7%	18.7%	16.6%	18.6%
Fama-MacBeth Estimation	Yearly + 25 Size \times B/M Portfolios		Yearly + 25 Size \times INV 25 Portfolios		Yearly + 25 Size \times X/P Portfolios		Yearly + 25 Size \times B/M Portfolios		Yearly + 25 Size \times INV Portfolios		Yearly + 25 Size \times X/P Portfolios	

(Continued)

TABLE A2—Continued

Panel B. Estimating the ERC of profits

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Profit Sample: Monthly Stock Returns ($\times 100$)											
	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor	FF 3-factor	FF 5-factor
X/P_t	20.074*** (50.37)	20.063*** (50.76)	17.904*** (55.28)	17.932*** (55.37)	23.166*** (58.47)	23.186*** (58.55)	23.069*** (50.74)	23.090*** (51.27)	21.270*** (59.54)	21.331*** (59.72)	23.491*** (58.25)	23.535*** (58.42)
X/P_{t-1}							-6.469*** (-26.24)	-6.508*** (-26.33)	-6.979*** (-28.32)	-7.029*** (-28.62)	-8.369*** (-7.55)	-9.075*** (-8.23)
RM	1.005*** (87.43)	1.005*** (68.24)	0.996*** (97.25)	0.985*** (78.28)	0.990*** (87.09)	0.974*** (70.59)	1.005*** (87.28)	1.003*** (68.10)	0.995*** (97.47)	0.983*** (78.36)	0.990*** (87.17)	0.974*** (70.94)
SMB	0.709*** (32.32)	0.688*** (27.08)	0.705*** (34.31)	0.690*** (29.73)	0.694*** (33.61)	0.672*** (28.80)	0.708*** (32.26)	0.687*** (27.09)	0.703*** (34.26)	0.688*** (29.68)	0.693*** (33.56)	0.672*** (28.75)
HML	0.195*** (9.11)	0.183*** (5.69)	0.164*** (8.93)	0.170*** (6.33)	0.161*** (8.27)	0.177*** (5.98)	0.195*** (9.10)	0.186*** (5.81)	0.163*** (8.89)	0.174*** (6.46)	0.160*** (8.23)	0.176*** (5.93)
RMW		-0.084** (-2.15)		-0.092*** (-2.74)		-0.095*** (-2.60)		-0.082** (-2.12)		-0.088*** (-2.63)		-0.097*** (-2.66)
CMA		-0.021 (-0.53)		-0.091** (-2.54)		-0.082** (-2.23)		-0.026 (-0.65)		-0.092*** (-2.59)		-0.085** (-2.34)
RM \times TIME	0.008 (0.47)	-0.024 (-1.10)	0.015 (1.00)	0.006 (0.30)	0.017 (1.15)	0.012 (0.64)	0.008 (0.48)	-0.021 (-0.97)	0.016 (1.05)	0.007 (0.39)	0.017 (1.15)	0.013 (0.70)
SMB \times TIME	0.047* (1.93)	0.033 (1.09)	0.034 (1.49)	0.029 (1.05)	0.059*** (2.66)	0.058** (2.09)	0.049** (2.00)	0.035 (1.16)	0.035 (1.52)	0.031 (1.13)	0.060*** (2.66)	0.057** (2.05)
HML \times TIME	-0.083*** (-2.99)	-0.099* (-1.94)	-0.056** (-2.45)	-0.100*** (-2.59)	-0.041* (-1.65)	-0.110** (-2.58)	-0.084*** (-3.02)	-0.106** (-2.10)	-0.057** (-2.46)	-0.106*** (-2.74)	-0.040 (-1.60)	-0.112*** (-2.61)
RMW \times TIME		-0.038 (-0.54)		0.016 (0.29)		0.009 (0.17)		-0.042 (-0.62)		0.010 (0.18)		0.010 (0.17)
CMA \times TIME		-0.029 (-0.48)		0.087* (1.67)		0.094 (1.61)		-0.021 (-0.34)		0.089* (1.72)		0.102* (1.74)
TIME	-0.477*** (-8.41)	-0.386*** (-4.90)	-0.465*** (-9.28)	-0.472*** (-7.08)	-0.445*** (-8.33)	-0.465*** (-6.53)	-0.488*** (-8.53)	-0.408*** (-5.19)	-0.477*** (-9.43)	-0.490*** (-7.30)	-0.449*** (-8.41)	-0.471*** (-6.59)
Intercept	-0.977*** (-19.44)	-0.920*** (-15.26)	-0.865*** (-20.19)	-0.776*** (-14.96)	-1.292*** (-25.26)	-1.186*** (-19.43)	-0.754*** (-14.99)	-0.694*** (-11.60)	-0.601*** (-14.07)	-0.509*** (-9.86)	-0.651*** (-7.33)	-0.507*** (-5.32)
N	1,220,586	1,220,586	1,220,562	1,220,562	1,220,586	1,220,586	1,220,586	1,220,586	1,220,562	1,220,562	1,220,586	1,220,586
R^2	20.4%	21.1%	20.1%	20.6%	20.4%	21.0%	20.8%	21.4%	20.4%	20.9%	20.5%	21.1%
Fama-MacBeth Estimation	Yearly + 25 Size \times B/M Portfolios		Yearly + 25 Size \times INV Portfolios		Yearly + 25 Size \times X/P Portfolios		Yearly + 25 Size \times B/M Portfolios		Yearly + 25 Size \times INV Portfolios		Yearly + 25 Size \times X/P Portfolios	

Note: This table presents the estimates of equation (9).

$$Ret_{it,m} = \delta_{0p} + \delta_{1p}X/P_{it} + \delta_{2p}X/P_{it-1} + \beta_{1p}RM_{t,m} + \beta_{2p}SMB_{t,m} + \beta_{3p}HML_{t,m} + \beta_{4p}RMW_{t,m} + \beta_{5p}CMA_{t,m} + \beta_{6p}RM_{t,m} \times TIME + \beta_{7p}SMB_{t,m} \times TIME + \beta_{8p}HML_{t,m} \times TIME + \beta_{9p}RMW_{t,m} \times TIME + \beta_{10p}CMA_{t,m} \times TIME + \beta_{11p}TIME + \varepsilon_{it,m} \quad (9)$$

where the dependent variable $Ret_{it,m}$ is monthly returns (in percentage points) in excess of the risk-free rate for firm i , year t , and month m . The main explanatory variable is X/P_{it} (earnings scaled by lagged price). The fiscal year ends at the month of the fourth-quarter earnings announcement. The Fama-French (2015) five factors include $RM_{t,m}$ (monthly market excess returns), $SMB_{t,m}$ (small minus big), $HML_{t,m}$ (high minus low), $RMW_{t,m}$ (robust minus weak), and $CMA_{t,m}$ (conservative minus aggressive). $TIME$ is a time variable that equals 0 for the first fiscal quarter, 0.333 for the second fiscal quarter, 0.667 for the third fiscal quarter, and 1 for the last fiscal quarter. I require non-missing X/P_{it-1} (one-year lagged earnings) in all estimations. The equation is estimated annually in portfolio p of the loss (profit) sample. The portfolios are formed based on the monthly quintiles of firm size (MVE_{t-1}), book-to-market (B/M_{t-1}), investment (INV_{t-1}), and profitability (X/P_{t-1}) in the loss (profit) sample. INV_{t-1} is defined as the change in total assets in fiscal year $t-1$ scaled by total assets in fiscal year $t-2$ (see Fama and French 2015). The coefficients are computed in the spirit of Fama and MacBeth (1973). At least 60 observations are required for each estimation. t -statistics are presented in parentheses; and ***, **, and * represent statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Stock returns are not winsorized or trimmed.

TABLE A3

Controlling for Risk Information in Earnings Announcement Returns

Panel A. Estimating the ERC of losses

VARIABLES	(1)	(2)	(3)	(4)		(5)		(6)		(7)	(8)	(9)
	Univariate	FF 5-factor	FF 5-factor	<i>Loss Sample: Daily Returns around Earnings Announcements ($\times 100$)</i>		FF 5-factor		FF 5-factor		FF 5-factor	FF 5-factor	FF 5-factor
X/P _t	0.394*** (5.20)	0.420*** (5.66)	0.424*** (5.26)	0.883*** (8.74)	1.297*** (11.84)	0.668*** (8.63)	0.943*** (10.41)	1.007*** (11.45)	1.054*** (11.39)			
X/P _{t-1}					-1.286*** (-13.36)		-1.206*** (-10.54)					-1.095** (-2.50)
rm		0.928*** (29.58)	0.934*** (19.95)	0.868*** (20.39)	0.875*** (20.42)	0.889*** (21.02)	0.888*** (20.92)	0.895*** (20.89)	0.892*** (20.77)			
smb		0.917*** (13.91)	0.901*** (12.31)	0.835*** (13.58)	0.829*** (13.37)	0.837*** (12.98)	0.831*** (12.71)	0.882*** (13.16)	0.880*** (13.09)			
hml		0.096 (1.17)	0.090 (0.99)	0.170* (1.85)	0.191** (2.05)	0.135 (1.41)	0.123 (1.26)	0.132 (1.40)	0.127 (1.35)			
rmw		-0.530*** (-6.19)	-0.502*** (-3.67)	-0.486*** (-4.31)	-0.469*** (-4.10)	-0.457*** (-3.81)	-0.465*** (-3.85)	-0.510*** (-4.57)	-0.507*** (-4.57)			
cma		0.130 (1.35)	0.084 (0.59)	-0.002 (-0.02)	0.004 (0.03)	0.009 (0.08)	0.035 (0.31)	-0.106 (-1.02)	-0.094 (-0.89)			
rm \times time			-0.015 (-0.15)	0.105 (1.04)	0.082 (0.81)	-0.039 (-0.39)	-0.036 (-0.35)	0.011 (0.11)	0.015 (0.14)			
smb \times time			0.046 (0.27)	0.123 (0.83)	0.127 (0.86)	-0.061 (-0.41)	-0.073 (-0.49)	-0.056 (-0.37)	-0.060 (-0.40)			
hml \times time			0.069 (0.34)	-0.080 (-0.37)	-0.124 (-0.58)	-0.317 (-1.38)	-0.270 (-1.16)	-0.190 (-0.88)	-0.180 (-0.82)			
rmw \times time			-0.062 (-0.20)	-0.022 (-0.08)	-0.035 (-0.13)	-0.342 (-1.29)	-0.296 (-1.10)	-0.206 (-0.80)	-0.197 (-0.76)			
cma \times time			0.175 (0.75)	0.253 (0.92)	0.276 (1.00)	0.390 (1.48)	0.336 (1.27)	0.469* (1.85)	0.485* (1.89)			
time			-0.642*** (-3.90)	-0.672*** (-10.87)	-0.673*** (-10.88)	-0.678*** (-10.90)	-0.676*** (-10.85)	-0.702*** (-11.52)	-0.701*** (-11.50)			
Intercept	-0.268*** (-6.83)	-0.272*** (-8.05)	-0.058 (-0.86)	0.043 (1.59)	0.027 (1.01)	0.011 (0.37)	-0.015 (-0.54)	0.070** (2.50)	-0.028 (-0.70)			
N	450,248	450,248	450,248	450,248	450,248	450,482	450,482	450,679	450,679			
R ²	0.1%	2.7%	3.1%	8.7%	9.2%	8.7%	9.2%	8.8%	9.2%			
Fama-MacBeth Estimation	Yearly	Yearly	Yearly	Yearly + 25 Size \times B/M Portfolios		Yearly + 25 Size \times INV Portfolios		Yearly + 25 Size \times X/P Portfolios				

(Continued)

TABLE A3—Continued

Panel B. Estimating the ERC of profits

VARIABLES	(1)	(2)	(3)	(4)		(5)		(6)		(7)	(8)	(9)
	Univariate	FF 5-factor	FF 5-factor	Profit Sample: Daily Returns around Earnings Announcements ($\times 100$)		FF 5-factor		FF 5-factor		FF 5-factor	FF 5-factor	FF 5-factor
X/P _t	5.053*** (19.67)	5.024*** (19.73)	5.025*** (19.73)	4.484*** (37.09)	5.586*** (39.54)	4.277*** (37.50)	5.486*** (40.14)	6.021*** (39.80)	6.126*** (40.30)			
X/P _{t-1}					-2.248*** (-25.47)		-2.493*** (-24.38)					-3.029*** (-6.74)
rm		0.997*** (53.88)	0.998*** (50.03)	0.990*** (65.96)	0.990*** (65.95)	0.988*** (75.32)	0.989*** (75.26)	0.995*** (73.03)	0.996*** (72.80)			
smb		0.682*** (25.87)	0.686*** (21.14)	0.701*** (28.38)	0.704*** (28.23)	0.689*** (31.30)	0.694*** (31.28)	0.695*** (28.02)	0.695*** (27.87)			
hml		0.133*** (4.13)	0.142*** (3.85)	0.164*** (5.34)	0.169*** (5.48)	0.147*** (5.45)	0.149*** (5.48)	0.162*** (5.52)	0.160*** (5.46)			
rmw		-0.057 (-1.57)	-0.078* (-1.92)	-0.110*** (-2.88)	-0.107*** (-2.80)	-0.094*** (-2.82)	-0.087*** (-2.62)	-0.077** (-2.31)	-0.077** (-2.32)			
cma		-0.049 (-1.55)	-0.038 (-1.03)	-0.066* (-1.94)	-0.067** (-1.97)	-0.072** (-2.30)	-0.068** (-2.17)	-0.043 (-1.34)	-0.041 (-1.28)			
rm \times time			-0.002 (-0.06)	0.032 (1.02)	0.033 (1.04)	0.013 (0.46)	0.010 (0.33)	-0.006 (-0.20)	-0.006 (-0.21)			
smb \times time			-0.010 (-0.20)	-0.020 (-0.39)	-0.025 (-0.47)	0.007 (0.16)	-0.002 (-0.04)	-0.008 (-0.16)	-0.009 (-0.18)			
hml \times time			-0.035 (-0.52)	-0.006 (-0.08)	-0.007 (-0.11)	-0.051 (-0.77)	-0.051 (-0.78)	-0.125* (-1.77)	-0.122* (-1.72)			
rmw \times time			0.062 (0.82)	0.112 (1.25)	0.112 (1.26)	0.059 (0.71)	0.053 (0.64)	0.007 (0.09)	0.008 (0.10)			
cma \times time			-0.039 (-0.51)	-0.020 (-0.24)	-0.020 (-0.24)	0.027 (0.34)	0.021 (0.27)	0.007 (0.08)	0.003 (0.03)			
time			-0.088** (-2.31)	-0.119*** (-5.47)	-0.118*** (-5.44)	-0.101*** (-5.10)	-0.099*** (-5.03)	-0.109*** (-5.28)	-0.109*** (-5.26)			
Intercept	-0.190*** (-8.05)	-0.206*** (-10.21)	-0.176*** (-9.32)	-0.130*** (-10.13)	-0.062*** (-4.83)	-0.126*** (-10.77)	-0.039*** (-3.38)	-0.262*** (-17.99)	-0.063** (-2.06)			
N	1,203,507	1,203,507	1,203,507	1,203,507	1,203,507	1,203,596	1,203,596	1,203,695	1,203,695			
R ²	0.5%	5.1%	5.1%	8.7%	9.1%	8.4%	8.8%	8.7%	8.8%			
Fama-MacBeth Estimation	Yearly	Yearly	Yearly	Yearly + 25 Size \times B/M Portfolios		Yearly + 25 Size \times INV Portfolios		Yearly + 25 Size \times X/P Portfolios				

Note: This table presents the regression estimates based on the following model:

$$ret_{it,\tau} = \varphi_{0p} + \varphi_{1p}X/P_{it} + \varphi_{2p}X/P_{it-1} + \gamma_{1p}rm_{t,j} + \gamma_{2p}smb_{t,j} + \gamma_{3p}hml_{t,j} + \gamma_{4p}rmw_{t,j} + \gamma_{5p}cma_{t,j} + \gamma_{6p}rm_{t,j} \times time + \gamma_{7p}smb_{t,j} \times time + \gamma_{8p}hml_{t,j} \times time + \gamma_{9p}rmw_{t,j} \times time + \gamma_{10p}cma_{t,j} \times time + \gamma_{11p}time + \zeta_{it,j} \quad (10)$$

where $ret_{it,\tau}$ is daily stock returns (in percentage points) in excess of the risk-free rate in the three-day window surrounding the quarterly earnings announcement day for firm i , year t , and date τ . The Fama-French (2015) five factors are rm_t (daily market excess returns), smb_t (small minus big), hml_t (high minus low), rmw_t (robust minus weak), and cma_t (conservative minus aggressive). $time$ is a time variable that equals 0 on the day before the earnings announcement, 0.5 on the earnings announcement day, and 1 on the day after the earnings announcement. X/P_{t-1} is one-year lagged earnings. In Panel A (B), the equation is estimated annually in each portfolio p of the loss (profit) sample. The portfolios are formed based on the monthly quintiles of firm size (MVE_{t-1}), book-to-market (B/M_{t-1}), investment (INV_{t-1}), and profitability (X/P_{t-1}) in the loss (profit) sample. The coefficients are computed in the spirit of Fama and MacBeth (1973). At least 60 observations are required for each estimation. t -statistics are presented in parentheses; and ***, **, and * represent statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Stock returns are not winsorized or trimmed.

TABLE A4

Cross-Sectional Analyses of Cash-Flow Information in Losses

Panel A. Losses driven by R&D expensing vs. losses not driven by R&D expensing

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Loss Sample: Monthly Stock returns (× 100)</i>							
	LOSS_R&D = 0	LOSS_R&D = 1	LOSS_R&D = 0	LOSS_R&D = 1	LOSS_R&D = 0	LOSS_R&D = 1	LOSS_R&D = 0	LOSS_R&D = 1
Rank(X/P _t)	-0.002 (-0.00)	-1.882*** (-3.57)	1.503*** (9.44)	-0.122 (-0.34)	1.638*** (11.77)	-0.485 (-1.39)	1.378*** (9.93)	-0.130 (-0.35)
X/P _{t-1}			-3.330*** (-12.31)	-6.185*** (-7.74)	-3.014*** (-11.00)	-6.222*** (-7.17)	-7.470*** (-5.14)	-15.302*** (-4.52)
RM			1.051*** (24.18)	1.088*** (12.81)	1.047*** (25.23)	0.997*** (12.24)	1.053*** (25.20)	0.928*** (10.68)
SMB			1.047*** (16.54)	1.018*** (8.15)	1.025*** (16.28)	0.902*** (8.48)	1.021*** (17.03)	1.025*** (7.63)
HML			0.304*** (3.78)	-0.293** (-1.99)	0.296*** (3.61)	-0.610*** (-4.20)	0.206** (2.48)	-0.235 (-1.59)
RMW			-0.368*** (-3.11)	-0.819*** (-3.64)	-0.399*** (-3.27)	-0.930*** (-4.51)	-0.468*** (-4.36)	-0.885*** (-3.72)
CMA			0.023 (0.19)	0.320 (1.42)	-0.004 (-0.03)	0.328 (1.44)	0.007 (0.05)	0.073 (0.32)
RM × TIME			-0.068 (-1.03)	-0.225 (-1.63)	-0.066 (-0.96)	-0.075 (-0.57)	-0.070 (-1.08)	0.013 (0.10)
SMB × TIME			-0.206* (-1.96)	-0.032 (-0.16)	-0.237** (-2.13)	0.111 (0.65)	-0.206** (-2.05)	-0.070 (-0.35)
HML × TIME			-0.224* (-1.67)	0.027 (0.11)	-0.122 (-0.88)	0.480** (1.98)	0.001 (0.01)	0.059 (0.24)
RMW × TIME			-0.877*** (-4.61)	-0.122 (-0.36)	-0.855*** (-4.19)	0.022 (0.07)	-0.847*** (-4.60)	0.027 (0.08)
CMA × TIME			0.105 (0.52)	-0.218 (-0.59)	0.021 (0.10)	-0.106 (-0.27)	-0.214 (-1.13)	0.296 (0.77)
TIME			1.737*** (7.78)	1.549*** (3.41)	1.723*** (6.95)	1.317*** (3.14)	1.663*** (7.76)	0.966** (2.03)
Intercept	-0.519 (-1.55)	0.092 (0.26)	-1.668*** (-10.66)	-0.706** (-2.43)	-1.584*** (-9.58)	-0.580** (-2.03)	-1.835*** (-10.29)	-0.230 (-0.55)
N	409,803	98,320	362,485	80,207	362,403	80,377	362,445	80,391
R ²	0.1%	0.2%	18.0%	25.9%	17.9%	25.8%	17.7%	26.0%
Fama-MacBeth Estimation	Yearly	Yearly	Yearly 25 Size×B/M Portfolios		Yearly 25 Size×INV Portfolios		Yearly 25 Size×X/P Portfolios	

Panel B. Loss firms that have curtailments vs. loss firms that do not have curtailments

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Loss Sample: Monthly Stock returns (× 100)</i>							
	CURTAIL = 1	CURTAIL = 0	CURTAIL = 1	CURTAIL = 0	CURTAIL = 1	CURTAIL = 0	CURTAIL = 1	CURTAIL = 0
Rank(X/P _t)	0.255 (0.97)	-0.516 (-1.53)	1.712*** (10.73)	0.905*** (2.67)	1.538*** (10.70)	0.665* (1.84)	1.614*** (11.43)	0.944*** (2.59)
X/P _{t-1}			-3.663*** (-11.91)	-7.027*** (-8.05)	-3.056*** (-9.95)	-3.536*** (-4.41)	-5.897*** (-3.93)	-14.328*** (-3.49)
RM			1.030*** (24.36)	1.190*** (12.71)	1.043*** (25.37)	1.154*** (12.06)	1.009*** (24.84)	0.983*** (8.77)
SMB			1.069*** (16.83)	1.257*** (7.65)	1.079*** (16.90)	1.293*** (8.68)	1.052*** (17.02)	1.200*** (8.36)
HML			0.160** (1.96)	0.028 (0.17)	0.295*** (3.75)	-0.097 (-0.57)	0.152* (1.88)	-0.015 (-0.08)
RMW			-0.440*** (-3.65)	-0.028 (-0.09)	-0.435*** (-3.54)	-0.014 (-0.06)	-0.551*** (-5.10)	-0.303 (-0.93)
CMA			0.164 (1.22)	0.556* (1.91)	-0.010 (-0.08)	0.769*** (2.91)	0.062 (0.51)	0.352 (0.95)
RM × TIME			-0.091 (-1.36)	-0.167 (-1.12)	-0.105 (-1.46)	-0.092 (-0.58)	-0.068 (-1.03)	0.038 (0.23)
SMB × TIME			-0.150 (-1.34)	-0.429* (-1.66)	-0.243** (-2.22)	-0.318 (-1.34)	-0.221** (-2.16)	-0.257 (-1.14)
HML × TIME			0.022 (0.16)	-0.316 (-1.19)	-0.157 (-1.15)	0.010 (0.03)	0.091 (0.69)	-0.379 (-1.09)
RMW × TIME			-0.652*** (-3.36)	-1.182** (-2.53)	-0.707*** (-3.63)	-1.064*** (-2.65)	-0.683*** (-3.75)	-0.934* (-1.92)
CMA × TIME			-0.173 (-0.77)	-0.755 (-1.61)	0.110 (0.54)	-1.018** (-2.15)	-0.221 (-1.16)	-0.341 (-0.58)
TIME			2.324*** (9.08)	-0.615 (-1.11)	2.197*** (8.40)	-0.566 (-0.94)	2.194*** (9.47)	0.288 (0.38)
Intercept	-0.784** (-2.22)	-0.245 (-0.62)	-1.883*** (-11.14)	0.652* (1.73)	-1.977*** (-11.94)	0.935** (2.34)	-1.840*** (-10.05)	0.128 (0.22)
N	371,213	100,378	337,511	70,627	337,693	70,764	337,079	71,226
R ²	0.1%	0.2%	18.9%	24.8%	18.8%	24.5%	18.4%	24.7%
Fama-MacBeth Estimation	Yearly	Yearly	Yearly + 25 Size×B/M Portfolios		Yearly + 25 Size×INV Portfolios		Yearly + 25 Size×X/P Portfolios	

TABLE A4—Continued

Panel C. Persistent losses vs. transitory losses

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Loss Sample: Monthly Stock returns (× 100)</i>							
	LOSS_REV = 0	LOSS_REV = 1	LOSS_REV = 0	LOSS_REV = 1	LOSS_REV = 0	LOSS_REV = 1	LOSS_REV = 0	LOSS_REV = 1
Rank(X/P _{it})	0.214 (0.66)	0.456 (1.35)	1.759*** (8.72)	0.821** (2.51)	1.746*** (9.75)	0.747*** (2.98)	1.418*** (7.01)	0.649** (2.24)
X/P _{t-1}			-3.890*** (-9.21)	-5.018*** (-5.66)	-3.502*** (-8.59)	-5.852*** (-6.06)	-8.811*** (-3.83)	-5.885 (-1.41)
RM			1.099*** (18.67)	1.093*** (13.59)	1.070*** (20.56)	1.003*** (13.37)	1.065*** (16.31)	0.941*** (11.34)
SMB			1.005*** (9.64)	0.823*** (7.33)	1.102*** (13.18)	0.666*** (6.22)	1.053*** (11.93)	0.797*** (6.98)
HML			-0.035 (-0.31)	0.462*** (3.55)	0.079 (0.68)	0.500*** (3.46)	0.062 (0.49)	0.552*** (3.65)
RMW			-0.548*** (-3.61)	-0.066 (-0.36)	-0.638*** (-3.66)	-0.355* (-1.74)	-0.719*** (-4.10)	-0.120 (-0.55)
CMA			0.104 (0.65)	-0.201 (-0.99)	0.167 (1.11)	-0.413** (-2.02)	0.008 (0.04)	-0.314 (-1.30)
RM × TIME			-0.133 (-1.50)	-0.113 (-0.91)	-0.165* (-1.94)	-0.017 (-0.14)	-0.128 (-1.33)	0.068 (0.50)
SMB × TIME			0.065 (0.42)	-0.250 (-1.40)	-0.127 (-0.79)	-0.038 (-0.22)	-0.126 (-0.79)	-0.139 (-0.64)
HML × TIME			0.195 (1.06)	-0.114 (-0.52)	0.142 (0.80)	-0.350 (-1.57)	0.226 (1.05)	-0.495* (-1.85)
RMW × TIME			-0.733*** (-2.97)	-0.701** (-2.36)	-0.733*** (-2.68)	-0.391 (-1.21)	-0.550** (-1.98)	-0.882** (-2.28)
CMA × TIME			-0.128 (-0.49)	0.382 (1.12)	-0.446* (-1.72)	0.952*** (2.86)	-0.236 (-0.80)	0.338 (0.80)
TIME			1.656*** (5.50)	1.163*** (2.70)	1.633*** (5.13)	0.939** (2.24)	1.219*** (3.87)	0.549 (1.26)
Intercept	-0.126 (-0.35)	-0.246 (-0.83)	-1.178*** (-5.55)	-1.247*** (-4.54)	-1.282*** (-6.36)	-1.284*** (-4.71)	-1.309*** (-5.01)	-0.911*** (-2.80)
N	201,950	100,665	193,537	86,615	193,321	85,753	192,907	86,970
R ²	0.1%	0.2%	20.5%	23.9%	20.1%	24.2%	20.3%	23.8%
Fama-MacBeth Estimation	Yearly	Yearly	Yearly 25 Size×B/M Portfolios		Yearly 25 Size×INV Portfolios		Yearly 25 Size×X/P Portfolios	

Note: This table presents cross-sectional tests of cash-flow information in losses. Panels A–C report the ERC estimates for loss subsamples from the following equation. Since the distribution of earnings differs in those loss subsamples, I sort it into the annual quintiles, which ranges between -1 (largest losses) and 0 (smallest losses).

$$\begin{aligned}
 Ret_{it,m} = & \delta_{0p} + \delta_{1p}Rank(X/P_{it}) + \delta_{2p}X/P_{it-1} + \beta_{1p}RM_{t,m} + \beta_{2p}SMB_{t,m} + \beta_{3p}HML_{t,m} + \beta_{4p}RMW_{t,m} + \beta_{5p}CMA_{t,m} \\
 & + \beta_{6p}RM_{t,m} \times TIME + \beta_{7p}SMB_{t,m} \times TIME + \beta_{8p}HML_{t,m} \times TIME + \beta_{9p}RMW_{t,m} \times TIME \\
 & + \beta_{10p}CMA_{t,m} \times TIME + \beta_{11p}TIME + \varepsilon_{it,m}
 \end{aligned}$$

where $Ret_{it,m}$ is monthly returns (in percentage points) in excess of the risk-free rate for firm i , year t , and month m . The main explanatory variable is the annual quintiles of losses $Rank(X/P_{it})$, which ranges between -1 (largest losses) and 0 (smallest losses). The fiscal year ends at the month of the fourth-quarter earnings announcement. The Fama-French (2015) five factors include $RM_{t,m}$ (monthly market excess returns), $SMB_{t,m}$ (small minus big), $HML_{t,m}$ (high minus low), $RMW_{t,m}$ (robust minus weak), and $CMA_{t,m}$ (conservative minus aggressive). $TIME$ is a time variable that equals 0 for the first fiscal quarter, 0.333 for the second fiscal quarter, 0.667 for the third fiscal quarter, and 1 for the last fiscal quarter. In Panel A, the loss sample is partitioned based on $LOSS_R\&D_t$ that equals one when a loss is driven by R&D expensing, and zero otherwise. In Panel B, the loss sample is partitioned based on $CURTAIL_t$ that equals one when the loss firm has curtailments in the current year, and zero otherwise. In Panel C, the loss sample is partitioned based on $LOSS_REV_t$ that equals one when the predicted probability of loss reversal is in the top annual tercile, and zero otherwise. The indicator variables are defined in Section 3.2, and their summary statistics are reported in Table 1. The equation is estimated annually in each portfolio. The portfolios are formed based on the monthly quintiles of firm size (MVE_{t-1}), book-to-market (B/M_{t-1}), investment (INV_{t-1}), and profitability (X/P_{t-1}) in the loss (profit) sample. The coefficients are computed in the spirit of Fama and MacBeth (1973). At least 60 observations are required for each estimation. t -statistics are presented in parentheses; and ***, **, * represent statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Stock returns are not winsorized or trimmed.

TABLE A5

Easton and Monahan's (2005) Return Components

Panel A. Correlation matrix (loss firms—left diagonal; profit firms—right diagonal)

<i>Loss Sample</i>	X/P_t	RET_t	<i>Profit Sample</i>			
			$E[R]_{CT,t-1}$	$RN_{CT,t}$	$E[R]_{OJ,t-1}$	$RN_{OJ,t}$
X/P_t		0.300 (0.000)	0.514 (0.000)	0.002 (0.611)	0.400 (0.000)	-0.060 (0.000)
RET_t	-0.052 (0.000)		0.140 (0.000)	-0.198 (0.000)	0.068 (0.000)	-0.168 (0.000)
$E[R]_{CT,t-1}$	-0.342 (0.000)	0.107 (0.000)		-0.366 (0.000)	0.799 (0.000)	-0.232 (0.000)
$RN_{CT,t}$	0.097 (0.000)	-0.235 (0.000)	-0.160 (0.000)		-0.214 (0.000)	0.567 (0.000)
$E[R]_{OJ,t-1}$	-0.132 (0.000)	0.019 (0.001)	0.645 (0.000)	-0.153 (0.000)		-0.409 (0.000)
$RN_{OJ,t}$	0.306 (0.000)	-0.082 (0.000)	-0.144 (0.000)	0.501 (0.000)	-0.378 (0.000)	

Panel B. Controlling for expected returns and discount-rate news for loss firms

VARIABLES	(1)	(2)	(3)	<i>Loss Sample</i>		(6)	(7)
	RET_t	$RET_t - E[R]_{CT}$	$RET_t - E[R]_{OJ}$	$RET_t - E[R]_{CT}$	$RET_t - E[R]_{OJ}$	$RET_t - E[R]_{CT}$	$RET_t - E[R]_{OJ}$
X/P_t	0.033 (0.64)	0.251*** (7.43)	0.134*** (3.59)	0.209*** (3.31)	0.197*** (4.52)	0.327*** (5.02)	0.368*** (7.92)
X/P_{t-1}						-0.419*** (-5.93)	-0.496*** (-8.44)
$RN_{CT,t}$				-0.017*** (-5.33)		-0.020*** (-6.64)	
$RN_{OJ,t}$					-0.007*** (-3.53)		-0.009*** (-3.93)
Intercept	-0.040 (-1.09)	-0.171*** (-5.09)	-0.164*** (-4.47)	-0.107*** (-2.92)	-0.153*** (-4.13)	-0.100*** (-2.88)	-0.141*** (-3.99)
N	44,241	19,883	30,456	12,501	24,257	11,361	21,881
R^2	1.2%	2.0%	1.6%	8.0%	3.2%	10.4%	6.8%
Fama-MacBeth	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly

Panel C. Controlling for expected returns and discount-rate news for profit firms

VARIABLES	(1)	(2)	(3)	<i>Profit Sample</i>		(6)	(7)
	RET_t	$RET_t - E[R]_{CT}$	$RET_t - E[R]_{OJ}$	$RET_t - E[R]_{CT}$	$RET_t - E[R]_{OJ}$	$RET_t - E[R]_{CT}$	$RET_t - E[R]_{OJ}$
X/P_t	3.237*** (13.31)	2.547*** (17.62)	2.700*** (17.51)	2.420*** (19.48)	2.648*** (16.99)	2.896*** (22.10)	2.952*** (20.79)
X/P_{t-1}						-1.036*** (-9.92)	-0.838*** (-10.04)
$RN_{CT,t}$				-0.022*** (-6.34)		-0.026*** (-6.44)	
$RN_{OJ,t}$					-0.016*** (-5.62)		-0.016*** (-5.98)
Intercept	-0.071*** (-3.41)	-0.135*** (-5.37)	-0.154*** (-6.41)	-0.123*** (-4.92)	-0.151*** (-6.45)	-0.083*** (-3.24)	-0.117*** (-4.79)
N	110,360	62,539	84,872	45,280	77,450	42,861	73,329
R^2	13.9%	13.0%	13.8%	14.4%	15.1%	18.6%	18.4%
Fama-MacBeth	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly

Note: This table examines the information content of losses by controlling for Hou et al.'s (2012) implied cost of capital (ICC) measures and Easton and Monahan's (2005) discount-rate news proxies. $E[R]_{CT}$ and $E[R]_{OJ}$ denote the ICC measures computed following Claus and Thomas (2001) and Ohlson and Juettner-Nauroth (2005), respectively. RN_{CT} and RN_{OJ} denote discount-rate news proxies computed using $E[R]_{CT}$ and $E[R]_{OJ}$, respectively. Panel A reports Pearson correlation coefficients for loss and profit firms separately, and p -values are presented in the parentheses. Panels B and C report the ERC estimates for loss and profit firms, respectively. The regressions are estimated annually using the Fama and MacBeth (1973) approach, and t -statistics are presented in parentheses. ***, **, and * represent statistical significance based on two-tailed t -tests at the 0.10, 0.05, and 0.01 levels, respectively. The ICC measures are defined in the Appendix and winsorized at the 1st and 99th percentiles.

TABLE A6
Vuolteenaho's (2002) Return Components

Panel A. Correlation matrix (loss firms—left diagonal; profit firms—right diagonal)

<i>Loss Sample</i>	X/P_t	RET_t	<i>Profit Sample</i>		
			$E[R]_{VL,t-1}$	$CN_{VL,t}$	$RN_{VL,t}$
X/P_t		0.300 (0.000)	0.160 (0.000)	0.256 (0.000)	-0.067 (0.000)
RET_t	-0.052 (0.000)		0.493 (0.000)	0.499 (0.000)	-0.540 (0.000)
$E[R]_{VL,t-1}$	-0.258 (0.000)	0.364 (0.000)		-0.341 (0.000)	-0.286 (0.000)
$CN_{VL,t}$	0.356 (0.000)	0.280 (0.000)	-0.671 (0.000)		-0.037 (0.000)
$RN_{VL,t}$	0.383 (0.000)	-0.330 (0.000)	-0.584 (0.000)	0.556 (0.000)	

Panel B. Controlling for expected returns and discount-rate news

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	<i>Loss Sample</i> Dependent Variable: Annual Returns RET_t					<i>Profit Sample</i> Dependent Variable: Annual Returns RET_t				
X/P_t	0.033 (0.64)	0.391*** (9.13)	0.460*** (13.15)	0.587*** (15.05)	0.872*** (19.46)	3.237*** (13.31)	2.519*** (15.64)	2.391*** (17.74)	2.264*** (14.99)	2.745*** (19.48)
X/P_{t-1}					-0.801*** (-12.94)					-1.556*** (-14.97)
$E[R]_{VL,t-1}$		0.452*** (13.40)		0.380*** (10.96)	0.445*** (12.05)		0.886*** (19.27)		0.732*** (16.38)	0.887*** (19.19)
$RN_{VL,t}$			-0.743*** (-12.38)	-0.544*** (-9.46)	-0.574*** (-10.16)			-1.631*** (-22.09)	-1.374*** (-20.41)	-1.416*** (-23.47)
Intercept	-0.040 (-1.09)	-0.076*** (-2.89)	-0.032 (-1.21)	-0.055** (-2.35)	-0.053** (-2.55)	-0.071*** (-3.41)	-0.035* (-2.00)	0.011 (0.72)	0.012 (1.09)	0.077*** (6.11)
N	44,241	28,452	28,452	28,452	27,653	110,360	98,334	98,334	98,334	96,546
R^2	1.2%	19.8%	13.6%	26.9%	34.2%	13.9%	38.1%	39.2%	55.1%	64.7%
Fama-MacBeth	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly

Note: This table examines the information content of losses by controlling for Vuolteenaho's (2002) return components. CN_{VL} denotes cash-flow news, RN_{VL} denotes discount-rate news, and $E[R]_{VL}$ denotes expected returns calculated based on the Vuolteenaho (2002) approach (see the Appendix). Panel A reports Pearson correlation coefficients for loss and profit firms separately, and p -values are presented in the parentheses. Panel B reports regressions with controls for expected returns and discount-rate news. The regressions are estimated annually using the Fama and MacBeth (1973) approach, and t -statistics are presented in parentheses. ***, **, and * represent statistical significance based on two-tailed t -tests at the 0.10, 0.05, and 0.01 levels, respectively.

TABLE A7
Post-Loss Return Drifts

VARIABLES	<i>Loss Sample: Monthly Stock Returns ($\times 100$)</i>						<i>Profit Sample: Monthly Stock Returns ($\times 100$)</i>					
	(1) FF 3-factor	(2) FF 5-factor	(3) FF 3-factor	(4) FF 5-factor	(5) FF 3-factor	(6) FF 5-factor	(7) FF 3-factor	(8) FF 5-factor	(9) FF 3-factor	(10) FF 5-factor	(11) FF 3-factor	(12) FF 5-factor
X/P_t	0.527 (1.49)	0.533 (1.51)	-0.398 (-1.32)	-0.382 (-1.17)	-0.194 (-0.67)	-0.195 (-0.68)	1.341*** (3.86)	1.341*** (3.87)	1.462*** (4.54)	1.461*** (4.52)	1.868*** (5.39)	1.877*** (5.40)
X/P_{t-1}	-0.150 (-0.45)	-0.144 (-0.44)	0.454 (1.50)	0.429 (1.42)	1.193 (0.74)	1.042 (0.65)	0.073 (0.38)	0.055 (0.29)	0.186 (0.97)	0.179 (0.93)	1.357 (1.05)	1.138 (0.89)
$RM_{t+1,m}$	1.111*** (37.67)	1.035*** (25.70)	1.085*** (35.32)	0.963*** (23.90)	1.108*** (36.53)	1.016*** (25.44)	0.985*** (87.79)	0.980*** (70.27)	0.981*** (99.89)	0.982*** (83.61)	0.983*** (90.95)	0.978*** (73.63)
$SMB_{t+1,m}$	1.312*** (27.27)	1.130*** (17.38)	1.351*** (25.17)	1.164*** (18.19)	1.338*** (26.81)	1.120*** (18.38)	0.687*** (33.21)	0.687*** (28.24)	0.673*** (35.95)	0.670*** (30.87)	0.672*** (35.20)	0.658*** (29.37)
$HML_{t+1,m}$	0.361*** (6.71)	0.220*** (2.72)	0.326*** (6.00)	0.265*** (3.14)	0.368*** (6.52)	0.312*** (3.50)	0.178*** (8.63)	0.194*** (6.29)	0.168*** (9.84)	0.173*** (6.84)	0.169*** (9.34)	0.173*** (6.38)
$RMW_{t+1,m}$		-0.524*** (-4.44)		-0.437*** (-3.61)		-0.422*** (-3.44)		-0.067* (-1.81)		-0.064** (-2.03)		-0.059* (-1.66)
$CMA_{t+1,m}$		0.122 (1.00)		0.082 (0.69)		0.125 (1.05)		-0.105*** (-2.59)		-0.099*** (-2.89)		-0.091** (-2.51)
$RM_{t+1,m} \times TIME$	-0.036 (-0.70)	-0.125* (-1.84)	0.015 (0.29)	0.016 (0.24)	-0.035 (-0.71)	-0.083 (-1.32)	0.010 (0.60)	-0.022 (-1.09)	0.004 (0.31)	-0.030* (-1.66)	0.011 (0.71)	-0.015 (-0.74)
$SMB_{t+1,m} \times TIME$	-0.083 (-0.98)	-0.270** (-2.38)	-0.088 (-1.04)	-0.232** (-2.20)	-0.075 (-0.97)	-0.197** (-2.01)	0.045* (1.78)	-0.012 (-0.38)	0.038* (1.69)	-0.002 (-0.07)	0.034 (1.46)	0.015 (0.50)
$HML_{t+1,m} \times TIME$	-0.086 (-0.95)	0.016 (0.12)	-0.040 (-0.44)	-0.021 (-0.15)	-0.108 (-1.20)	-0.133 (-0.94)	-0.048* (-1.74)	-0.085* (-1.88)	-0.037 (-1.62)	-0.084** (-2.25)	-0.031 (-1.25)	-0.071* (-1.70)
$RMW_{t+1,m} \times TIME$		-0.472** (-2.22)		-0.585*** (-2.63)		-0.482** (-2.48)		-0.017 (-0.27)		0.019 (0.35)		-0.018 (-0.31)
$CMA_{t+1,m} \times TIME$		0.051 (0.26)		-0.066 (-0.32)		0.097 (0.48)		0.124* (1.92)		0.152*** (2.69)		0.120* (1.95)
TIME	0.043 (0.23)	0.029 (0.11)	0.193 (1.13)	0.272 (1.13)	0.416** (2.43)	0.366 (1.53)	-0.141** (-2.51)	-0.140* (-1.73)	-0.130*** (-2.65)	-0.167** (-2.46)	-0.134** (-2.54)	-0.157** (-2.03)
Intercept	-0.247** (-2.13)	0.171 (1.07)	-0.343*** (-3.09)	0.121 (0.75)	-0.384*** (-2.59)	0.078 (0.44)	0.086* (1.84)	0.170*** (2.89)	0.037 (0.93)	0.129*** (2.73)	0.042 (0.45)	0.150 (1.52)
N	411,817	411,817	412,615	412,615	412,154	412,154	1,178,695	1,178,695	1,178,722	1,178,722	1,178,703	1,178,703
R^2	14.9%	17.0%	14.5%	16.7%	14.5%	16.6%	18.8%	19.5%	18.5%	19.1%	18.5%	19.2%
Fama-MacBeth Estimation	Yearly + 25 Size×B/M Portfolios		Yearly + 25 Size×INV Portfolios		Yearly + 25 Size×X/P Portfolios		Yearly + 25 Size×B/M Portfolios		Yearly + 25 Size×INV Portfolios		Yearly + 25 Size×X/P Portfolios	

Note: This table presents the estimates of the following equation.

$$Ret_{it+1,m} = \gamma_{1j}X/P_{it} + \gamma_{2j}X/P_{it-1} + \beta_{1j}RM_{t+1,m} + \beta_{2j}SMB_{t+1,m} + \beta_{3j}HML_{t+1,m} + \beta_{4j}RMW_{t+1,m} + \beta_{5j}CMA_{t+1,m} + \beta_{6j}RM_{t+1,m} \times TIME + \beta_{7j}SMB_{t+1,m} \times TIME + \beta_{8j}HML_{t+1,m} \times TIME + \beta_{9j}RMW_{t+1,m} \times TIME + \beta_{10j}CMA_{t+1,m} \times TIME + \beta_{11j}TIME + Intercept + \varepsilon_{it}$$

where the dependent variable $Ret_{it+1,m}$ is monthly returns (in percentage points) in excess of the risk-free rate for firm i in the 12-month period of fiscal year $t+1$. The main explanatory variable is earnings (X/P_{it}) in year t . The Fama-French (2015) five factors include $RM_{t+1,m}$ (monthly market excess returns), $SMB_{t+1,m}$ (small minus big), $HML_{t+1,m}$ (high minus low), $RMW_{t+1,m}$ (robust minus weak), and $CMA_{t+1,m}$ (conservative minus aggressive). $TIME$ is a time variable that equals 0 for the first fiscal quarter and 0.333 for the second fiscal quarter. X/P_{it} is one-year lagged earnings. The equation is estimated annually in each portfolio j of the loss (profit) sample. The portfolios are formed based on the monthly quintiles of firm size (MVE_{t-1}), book-to-market (B/M_{t-1}), investment (INV_{t-1}), and profitability (X/P_{t-1}) in the loss (profit) sample. The coefficients are computed in the spirit of Fama and MacBeth (1973). At least 60 observations are required for each estimation. t -statistics are presented in parentheses, and ***, **, * represent statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Stock returns are not winsorized or trimmed.

TABLE A8
Reconciliation with Lawrence et al. (2018)

Panel A. Sample Period 1974–2011

VARIABLES	<i>Winsorized Sample</i>			<i>Trimmed Sample</i>		
	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}
ROA _t	0.661*** (71.46)	0.652*** (74.66)	0.632*** (66.96)	0.690*** (102.95)	0.695*** (99.80)	0.695*** (88.49)
ROA _t × LOSS _t	0.018 (1.35)	0.044*** (3.35)	0.047*** (3.43)	-0.033*** (-3.12)	-0.032*** (-2.94)	-0.020* (-1.77)
LOSS _t	-0.024*** (-14.21)	-0.022*** (-12.57)	-0.028*** (-14.74)	-0.016*** (-14.10)	-0.015*** (-12.56)	-0.017*** (-12.13)
Intercept	0.005*** (9.74)	0.006*** (11.14)	0.007*** (10.92)	0.003*** (7.89)	0.003*** (7.04)	0.002*** (4.33)
N	145,232	132,097	115,016	141,310	128,865	111,584
Adj. R ²	50.6%	50.4%	50.9%	46.7%	47.0%	48.4%
Sample	Entire sample	Drop missing EMP at <i>t</i> & <i>t-1</i>	Drop financial firms	Entire sample	Drop missing EMP at <i>t</i> & <i>t-1</i>	Drop financial firms

Panel B. Sample Period 1971–2016

VARIABLES	<i>Winsorized Sample</i>			<i>Trimmed Sample</i>		
	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}
ROA _t	0.660*** (74.08)	0.650*** (78.61)	0.635*** (71.98)	0.692*** (109.69)	0.697*** (106.22)	0.693*** (93.55)
ROA _t × LOSS _t	0.044*** (3.55)	0.071*** (5.89)	0.052*** (3.92)	-0.010 (-1.06)	-0.008 (-0.79)	-0.011 (-1.02)
LOSS _t	-0.024*** (-15.59)	-0.022*** (-14.13)	-0.032*** (-16.53)	-0.017*** (-15.63)	-0.016*** (-14.10)	-0.018*** (-14.56)
Intercept	0.006*** (11.27)	0.007*** (13.39)	0.007*** (12.19)	0.003*** (9.36)	0.003*** (8.69)	0.003*** (6.22)
N	170,905	155,792	134,732	166,245	151,947	131,091
Adj. R ²	52.8%	52.8%	52.6%	48.9%	49.3%	49.5%
Sample	Entire sample	Drop missing EMP at <i>t</i> & <i>t-1</i>	Drop financial firms	Entire sample	Drop missing EMP at <i>t</i> & <i>t-1</i>	Drop financial firms

Note: This table reports panel regressions of next-year's return-on-asset (ROA_{t+1}) on current-year's return-on assets (ROA_t), a loss indicator ($LOSS$), and the interaction between them. The sample in Panel A consists of all firm-years (including financial firms) between 1974–2011, while the sample in Panel B consists of all firm-years (including financial firms) between 1971–2016. In both panels, ROA is winsorized at the 1st and 99th percentiles in Columns 1–3, while ROA is trimmed at the 1st and 99th percentiles in Columns 4–6. In both panels, Column 1 (4) includes the entire sample, Column 2 (5) excludes firms that have missing employment data in year t and $t-1$, and Columns 3 (6) excludes firms in the financial industry. Standard errors are clustered at the firm level, and t -statistics are presented in parentheses. ***, **, * represent statistical significance based on two-tailed t -tests at the 0.10, 0.05, and 0.01 levels, respectively.

VARIABLE DEFINITION

(1) The Implied Cost of Capital Measures

Notations (firm subscripts are omitted for brevity):

P_t = Stock price at the end of fiscal year t .

$FEPS_{t+\tau}$ = earnings forecast for τ -year-ahead EPS in fiscal year t .

BPS_t = Book value of equity per share in fiscal year t .

DPS_t = Dividend per share in fiscal year t .

APS_t = Total assets per share in fiscal year t .

ICC	MODEL	COMMENTS
$E[R]_{CT}$	$P_t = BPS_t + \sum_{\tau=1}^4 \frac{(FEPS_{t+\tau} - E[R] \times BPS_{t+\tau-1})}{(1 + E[R])^\tau} + \frac{(FEPS_{t+5} - E[R] \times BPS_{t+4}) \times (1 + \gamma)}{(E[R] - \gamma)(1 + E[R])^4}$	<p>Missing $FEPS_{t+\tau}$ ($\tau \geq 3$) are derived from $FEPS_{t+2}$ and g_{lt}. If g_{lt} is missing, an implied earnings growth rate from $FEPS_{t+2}$ and $FEPS_{t+1}$ is used. γ is calculated as the contemporaneous risk-free rate minus 3% (see Claus and Thomas 2001).</p>
$E[R]_{OJ}$	$E[R] = \Lambda + \sqrt{\Lambda^2 + \left(\frac{FEPS_{t+1}}{P_t}\right)(g_2 - g_{lt})}$	<p>$\Lambda = (g_{lt} + \frac{DPS_{t+1}}{p_t})$. g_{lt} is calculated as the current risk-free rate minus 3%. g_2 is the average of the forecasted long-term growth rate and short-term earnings growth rate implied in $FEPS_{t+1}$ and $FEPS_{t+2}$. The model requires $FEPS_{t+1} > 0$ and $FEPS_{t+2} > 0$ (see Ohlson and Juettner-Nauroth 2005).</p>

(2) Easton and Monahan's (2005) Return Decomposition Method

Easton and Monahan's (2005) measure of cash-flow news (CN_{EM}):

$$FREV_YR1_t = (FEPS_{t,t+1} - FEPS_{t-1,t+1})/APS_{t-1},$$

$$FREV_YR2_t = (FEPS_{t,t+2} - FEPS_{t-1,t+2})/APS_{t-1},$$

$$CN_{EM,t} = (EPS_t - FEPS_{t-1,t})/APS_{t-1} + FREV_YR1_t + \frac{\rho}{1-\rho \times \omega_t} \times FREV_YR2_t,$$

where $FEPS_{t,t+\tau}$ denotes analyst consensus forecast for τ -year-ahead EPS at the end of fiscal year t , which is the last one prior to the fourth-quarter earnings announcement, and EPS_t denotes the actual EPS in fiscal year t .

Easton and Monahan's (2005) measure of discount-rate news:

$$RN_{CT,t} = \frac{\rho}{1-\rho} (E[R]_{CT,t} - E[R]_{CT,t-1}),$$

$$RN_{OJ,t} = \frac{\rho}{1-\rho} (E[R]_{OJ,t} - E[R]_{OJ,t-1}),$$

where $E[R]_{CT}$ and $E[R]_{OJ}$ are the implied cost of capital measures based on Claus and Thomas (2001) and Ohlson and Juettner-Nauroth (2005), respectively.

The earnings persistence coefficient ω_t is estimated from the following equation: $ROE_{i\tau+1} = \omega_{0t} + \omega_t \times ROE_{i\tau}$, where $ROE_{i\tau}$ denotes return-on-equity for firm i in year τ . The equation is estimated annually at the industry level (Fama-French 49 classification) using data between year $t-9$ and year t , so ω_t is industry-year specific.

The discount factor ρ is based on annual portfolios of the price-to-dividend (PTD) ratio: (1) $\rho = 0.988$ for non-dividend-paying firms, (2) $\rho = 0.957$ for firms in the fourth (highest) PTD quartile, (3) $\rho = 0.921$ for the third PTD quartile, (4) $\rho = 0.927$ for the second PTD quartile, and (5) $\rho = 0.924$ for the first (lowest) PTD quartile.

(3) Vuolteenaho's (2002) Return Decomposition Method

Vuolteenaho (2002) uses a vector autoregressive (VAR) model to decompose realized returns. The underlying assumption of the VAR model is that the dynamics of the data are well described by a stationary multivariate time-series model.

$$z_t = \Gamma z_{t-1} + \eta_t,$$

where z_t as a vector of firm-specific state variables, the coefficient matrix Γ is constant over time and across firms, and the error term vectors η_t are zero-mean vectors of shocks and independent of all variables known at $t-1$. Firm subscripts are omitted for brevity.

Following Vuolteenaho (2002), I estimate a parsimonious VAR model where the state variables are log stock returns, log return-on-equity, and log book-to-market. The model can be described as a set of (mean-adjusted) equations:

$$r_t = \alpha_1 r_{t-1} + \alpha_2 roe_{t-1} + \alpha_3 bm_{t-1} + \eta_{1t},$$

$$roe_t = \beta_1 r_{t-1} + \beta_2 roe_{t-1} + \beta_3 bm_{t-1} + \eta_{2t},$$

$$bm_t = \gamma_1 r_{t-1} + \gamma_2 roe_{t-1} + \gamma_3 bm_{t-1} + \eta_{3t},$$

where $r_t = \log$ stock return (cum dividend) in excess of the risk-free rate in year t ; $roe_t = \log$ one plus return-on-equity in year t ; and $bm_t = \log$ book-to-market at the end of year t . I estimate the VAR regressions by weighted least squares (WLS) for each industry.

It follows from the first equation in the VAR system that unexpected returns can be expressed as the error term, i.e., $r_t - E_{t-1}[r_t] = \eta_{1t}$. As shown in Vuolteenaho (2002), unexpected returns (η_{1t}) can further be decomposed into cash-flow news (Ne_t) and discount-rate news (Nr_t):

$$Ne_t = (e_1 + \lambda_1)' \eta_t,$$

$$Nr_t = -\lambda_1' \eta_t,$$

where $'$ denotes the transpose operator; $e'_k = (0, \dots, 1, \dots, 0)$ is a row vector with one as the k 'th element and zero elsewhere; and $\lambda'_k = e'_k \rho \Gamma (1 - \rho \Gamma)^{-1}$. The term $(1 - \rho \Gamma)^{-1}$ is the matrix equivalent of the present value of a sum. As described above, I estimate the discount factor ρ based on the price-to-dividend (PTD) ratio portfolios.

(4) Hou et al.'s (2012) Earnings Forecasting Model

Hou et al. (2012) estimate the following cross-sectional regression in each year using the previous ten years of data. My estimation of Hou et al.'s (2012) earnings forecasting model is presented in Table A1.

$$E_{t+\tau} = \alpha_0 + \alpha_1 A_t + \alpha_2 D_t + \alpha_3 DD_t + \alpha_4 E_t + \alpha_5 Neg E_t + \alpha_6 AC_t + \varepsilon_t,$$

where $E_{t+\tau}$ denotes earnings in year $t + \tau$ ($\tau = 1, \dots, 5$), A_t denotes total assets, D_t denotes the dividend payment, DD_t is an indicator that equals one for dividend paying firms and zero otherwise, $Neg E_t$ is an indicator for loss firms, and AC_t is accruals.

TABLE A9.
Coefficient Estimates of Hou et al.'s (2012) Earnings Forecasting Model

LHS		<i>Intercept</i>	<i>A_t</i>	<i>D_t</i>	<i>DD_t</i>	<i>E_t</i>	<i>Neg E_t</i>	<i>AC_t</i>	<i>Avg. R²</i>
E_{t+1}	Coefficient	-1.6308	0.0025	0.2357	1.6204	0.8078	1.2158	-0.0956	82.6%
	<i>t-stat</i>	(-4.27)	(6.36)	(11.68)	(4.42)	(48.34)	(2.54)	(-12.46)	
E_{t+2}	Coefficient	-1.9559	0.0060	0.3772	1.1922	0.7201	1.5723	-0.1279	75.7%
	<i>t-stat</i>	(-4.28)	(8.38)	(19.44)	(2.22)	(42.04)	(2.51)	(-9.06)	
E_{t+3}	Coefficient	-2.0701	0.0090	0.4574	0.4820	0.7028	2.5474	-0.1412	71.7%
	<i>t-stat</i>	(-4.44)	(10.46)	(23.29)	(0.63)	(32.98)	(4.14)	(-7.54)	
E_{t+4}	Coefficient	-2.2993	0.0112	0.4694	0.4709	0.7510	4.7292	-0.1489	69.0%
	<i>t-stat</i>	(-4.47)	(13.83)	(19.07)	(0.55)	(28.14)	(5.93)	(-8.55)	
E_{t+5}	Coefficient	-2.1068	0.0127	0.4679	0.2156	0.8196	6.4030	-0.1724	66.6%
	<i>t-stat</i>	(-4.47)	(14.92)	(12.40)	(0.18)	(21.23)	(6.88)	(-10.81)	

Note: this table presents the average coefficients from Hou et al.'s (2012) earnings forecasting model estimated annually using the previous 10 years of data. E_{t+1} , E_{t+2} , E_{t+3} , E_{t+4} , and E_{t+5} are the one-, two-, three-, four-, and five-year ahead earnings (income before extraordinary items), respectively. A_t is total assets, D_t is the dividend payment, DD_t is an indicator that equals one for dividend paying firms and zero otherwise, $Neg E_t$ is an indicator that equals one for loss firms and zero for profit firms, and AC_t is accruals. The sample period is between 1971 and 2012. The sample ends at 2012 since the estimation of expected E_{t+1} , E_{t+2} , E_{t+3} , E_{t+4} , and E_{t+5} requires data in the next five years. Prior to 1988, accruals are calculated using the balance sheet method. Starting in 1988, accruals are calculated using the cash-flow statement method.