Appendix to
What Drives Booms and Busts in Value?

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This Appendix provides a variety of supplemental information for Campbell, Giglio, and Polk (CGP 2023).

Table 1: **Quarterly Vector Autoregression Estimation**

The table shows the weighted least squares (WLS) parameter estimates for a quarterly first-order vectorautoregression (VAR) model. The state variables in the VAR are the log real return on the CRSP value-weight index (r_M), the realized variance ($RVAR$) of within-quarter daily simple returns on the CRSP value-weight index, the log ratio of the S&P 500's price to its 10-year moving average of earnings (PE), the term yield spread ($TERM$) in percentage points, measured as the difference between the log yield on 10-year Treasuries and the log yield on 3-month Treasuries, the default yield spread (DEF) in percentage points, measured as the difference between the log yield on Moody's BAA bonds and the log yield on Moody's AAA bonds, and the small-stock value spread (VS), the difference in the log book-to-market ratios of small-value and small-growth stocks. For the sake of interpretation, we estimate the VAR in two stages. Panel A reports the WLS parameter estimates of a first-stage regression forecasting $RVAR$ with the VAR state variables. The forecasted values from this regression are used in the second stage of the estimation procedure as the state variable $EVAR$, replacing $RVAR$ in the second-stage VAR. Panel B reports WLS parameter estimates of the full second-stage VAR. Initial WLS weights on each observation are inversely proportional to $RVAR_t$ and $EVAR_t$ in the first and second stage respectively, and are then shrunk to equal weights so that the maximum ratio of actual weights used is less than or equal to five. In addition, the forecasted values for both $RVAR$ and $EVAR$ are constrained to be positive. In Panels A and B, Column 1–7 report coefficients on an intercept and the six explanatory variables, and Column 8 shows the implied R^2 statistic for the unscaled model. We report t-statistics in parentheses. The sample period for the dependent variables is 1926:3–2022:1, with 384 quarterly data points.

Panel A: Forecasting quarterly realized variance ($RVAR_{t+1}$)							
Constant	$r_{M,t}$	$RVAR_t$	PE_t	$TERM_t$	DEF_t	VS_t	R^2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
-0.019	-0.005	0.340	0.005	-0.001	0.006	0.002	33.30%
(-3.48)	(-1.13)	(6.39)	(3.46)	(-1.28)	(4.59)	(0.82)	

Panel B: VAR estimates

Second stage	Constant	$r_{M,t}$	$EVAR_t$	PE_t	$TERM_t$	DEF_t	VS_t	R^2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$r_{M,t+1}$	0.202	0.062	2.332	-0.048	0.004	-0.019	-0.027	2.34%
	(2.69)	(1.09)	(1.33)	(-2.30)	(0.76)	(-0.84)	(-1.33)	
$EVAR_{t+1}$	-0.016	-0.002	0.369	0.004	0.000	0.005	0.002	56.99%
	(-5.31)	(-0.98)	(5.34)	(5.16)	(-1.90)	(5.16)	(2.47)	
PE_{t+1}	0.126	0.056	1.418	0.963	0.005	-0.015	-0.008	94.18%
	(1.66)	(0.98)	(0.80)	(45.44)	(0.82)	(-0.64)	(-0.41)	
$TERM_{t+1}$	-0.014	-0.040	4.907	0.019	0.831	0.152	0.001	76.91%
	(-0.04)	(-0.14)	(0.56)	(0.18)	(29.76)	(1.31)	(0.01)	
DEF_{t+1}	0.151	-0.355	3.912	-0.049	0.001	0.849	0.079	87.46%
	(0.85)	(-2.65)	(0.95)	(-0.98)	(0.07)	(15.55)	(1.62)	
VS_{t+1}	0.156	0.070	3.210	-0.018	-0.004	-0.005	0.930	92.57%
	(2.60)	(1.56)	(2.30)	(-1.09)	(-0.95)	(-0.29)	(56.38)	

Table 2: **HML Alternative Decomposition 1 and CAPM Pricing**

The table reports a decomposition of Fama and French's (1993) HML into its intra- and inter-industry components using our first alternative to the baseline approach studied in the main text. Rather than create a within-industry HML, we create an industry-demeaned HML. We create a value factor in the same way as HML, but we first industry-adjust firm-level BE/ME using Fama and French's (1997) mapping of SICC into 48 industries, based on historical classifications from Ken French's website. As this process still results in some incidental industry exposure, we then industry-neutralize this portfolio. In particular, we compute its industry exposure and using the resulting portfolio to offset any remaining industry exposure by differencing. We scale the resulting industry-neutralized, industry-demeaned portfolio so that a regression of HML on that portfolio, the first regression in the table, has a unit loading. We define the scaled portfolio as $\text{HML}^{\text{Alt1}}_{\text{Intra}}$ and the constant and residual from the regression as $\text{HML}^{\text{Alt1}}_{\text{Inter}}$. The sample is 1963Q3-2022Q1. We report t-statistics in parentheses.

Panel A: Full-sample estimates

		constant	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	HML	$RMRF$	$\widehat{R^2}$
(1)	HML	-0.15%	1.00			70.2%
		(-0.67)	(23.52)			
(2)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	0.42%		0.70		70.2%
		(2.31)		(23.52)		
(3)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	-0.42%		0.30		29.3%
		(-2.31)		(9.91)		
(4)	HML	1.24%			-0.17	5.52%
		(3.16)			(-3.83)	
(5)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	1.13%			-0.03	-0.17%
		(3.33)			(-0.78)	
(6)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	0.11%			-0.14	13.24%
		(0.54)			(-6.06)	

Panel B: Pre-1990 estimates

		constant	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	HML	$RMRF$	$\widehat{R^2}$
(1)	HML	0.07%	0.95			72.5%
		(0.24)	(16.73)			
(2)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	0.35%		0.76		72.5%
		(1.40)		(16.73)		
(3)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	-0.35%		0.24		19.4%
		(-1.40)		(5.15)		
(4)	HML	1.75%			-0.25	16.37%
		(3.76)			(-4.66)	
(5)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	1.66%			-0.17	8.99%
		(3.81)			(-3.39)	
(6)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	0.09%			-0.08	5.53%
		(0.35)			(-2.68)	

Panel C: Post-1990 estimates

		constant	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	HML	$RMRF$	$\widehat{R^2}$
(1)	HML	-0.29%	1.03			68.9%
		(-0.87)	(16.79)			
(2)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	0.43%		0.67		68.9%
		(1.60)		(16.79)		
(3)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	-0.43%		0.33		34.2%
		(-1.60)		(8.18)		
(4)	HML	0.72%			-0.10	0.80%
		(1.18)			(-1.42)	
(5)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	0.53%			0.10	1.56%
		(1.07)			(1.74)	
(6)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	0.19%			-0.20	19.42%
		(0.63)			(-5.62)	

Table 3: **HML Alternative Decomposition 2 and CAPM Pricing**

The table reports a decomposition of Fama and French's (1993) HML into its intra- and inter-industry components using our second alternative to the baseline approach in the main text. Rather than create a within-industry HML, we industry neutralize HML, namely, computing the industry exposure of HML and using that portfolio to offset HML's industry exposure by differencing. We measure industry using Fama and French's (1997) mapping of SICC into 48 industries, based on historical classifications from Ken French's website. We scale the resulting industry-neutralized portfolio so that a regression of HML on that portfolio, the first regression in the table, has a unit loading. We define the scaled portfolio as $\text{HML}^{\text{Alt2}}_{\text{Intra}}$ and the constant and residual from the regression as $\text{HML}^{\text{Alt2}}_{\text{Inter}}$. The sample is 1963Q3-2022Q1. We report t-statistics in parentheses.

Panel A: Full-sample estimates

		constant	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	HML	$RMRF$	$\widehat{R^2}$
(1)	HML	-0.33%	1.00			76.3%
		-1.68	27.50			
(2)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	0.55%		0.76		76.3%
		3.24		27.50		
(3)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	-0.55%		0.24		23.2%
		-3.24		8.47		
(4)	HML	1.24%			-0.17	5.52%
		3.16			-3.83	
(5)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	1.60%			-0.18	8.43%
		4.71			-4.75	
(6)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	-0.35%			0.01	-0.32%
		-1.80			0.51	

Panel B: Pre-1990 estimates

		constant	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	HML	$RMRF$	$\widehat{R^2}$
(1)	HML	-0.25%	0.96			78.1%
		-0.98	19.44			
(2)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	0.59%		0.82		78.1%
		2.60		19.44		
(3)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	-0.59%		0.18		14.8%
		-2.60		4.40		
(4)	HML	1.75%			-0.25	16.37%
		3.76			-4.66	
(5)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	2.09%			-0.27	22.26%
		5.05			-5.60	
(6)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	-0.34%			0.02	-0.60%
		-1.42			0.61	

Panel C: Post-1990 estimates

		constant	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	HML	$RMRF$	$\widehat{R^2}$
(1)	HML	-0.36%	1.02			75.2%
		-1.23	19.65			
(2)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	0.47%		0.74		75.2%
		1.89		19.65		
(3)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	-0.47%		0.26		27.6%
		-1.89		7.03		
(4)	HML	0.72%			-0.10	0.80%
		1.18			-1.42	
(5)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	1.08%			-0.11	1.75%
		2.10			-1.80	
(6)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	-0.36%			0.01	-0.76%
		-1.18			0.20	

Table 4: **Cash-flow, Discount-rate, and Variance Betas Using Log Returns**

The table shows the estimated market ($\widehat{\beta}$), cash-flow ($\widehat{\beta}_{CF}$), discount-rate ($\widehat{\beta}_{DR}$), and variance ($\widehat{\beta}_{V}$) betas for HML and its intra- and inter-industry components when measured using log, rather than simple, returns. The left side of the table runs simple regressions while the right side of the table estimates a multiple regression with all three ICAPM News terms as regressors. The resulting point estimates in both the simple and multiple ICAPM regressions are scaled as in Campbell, Giglio, Polk, and Turley (2018). The sample is 1963Q3-2022Q1, which is then split into two sub-samples in Panels B and C. We report t-statistics in parentheses.

		simple regressions				multiple regression			
		$\widehat{\beta}$	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{R^2}$
Panel A: Full Sample									
(1)	HML	-0.15	-0.23	0.08	-0.11	-0.26	0.09	-0.06	48.09%
		(-3.35)	(-6.56	(6.20	(-10.24	(-7.80	(7.47	(-5.00)	
(2)	$\text{HML}_{\text{Intra}}$	-0.04	-0.12	0.08	-0.10	-0.11	0.06	-0.07	40.49%
		(-1.06)	(-3.69)	(6.75)	(-10.60)	(-3.68)	(5.75)	(-6.42)	
(3)	$\text{HML}_{\text{Intra}}$	-0.11	-0.12	0.01	-0.02	-0.15	0.03	0.01	15.63%
		(-4.41)	(-5.79)	(1.15)	(-2.32)	(-6.32)	(3.33)	(0.98)	
Panel B: Pre-1990									
(4)	HML	-0.25	-0.28	0.04	-0.10	-0.27	0.07	-0.04	49.70%
		(-4.70)	(-6.96)	(2.16)	(-7.96)	(-4.82)	(4.49)	(-2.15)	
(5)	$\text{HML}_{\text{Intra}}$	-0.17	-0.20	0.04	-0.07	-0.20	0.06	-0.03	34.63%
		(-3.30)	(-5.01)	(2.37)	(-6.05)	(-3.40)	(3.81)	(-1.60)	
(6)	$\text{HML}_{\text{Intra}}$	-0.08	-0.08	0.00	-0.02	-0.07	0.01	-0.01	4.70%
		(-2.25)	(-2.65)	(0.00)	(-2.49)	(-1.41)	(0.57)	(-0.60)	
Panel C: Post-1990									
(7)	HML	-0.05	-0.19	0.14	-0.13	-0.27	0.13	-0.06	48.42%
		(-0.75)	(-3.27)	(6.68)	(-6.91)	(-5.91)	(6.22)	(-3.29)	
(8)	$\text{HML}_{\text{Intra}}$	0.09	-0.03	0.12	-0.12	-0.08	0.08	-0.08	46.63%
		(1.60)	(-0.66)	(7.77)	(-8.57)	(-2.21)	(5.11)	(-4.99)	
(9)	$\text{HML}_{\text{Intra}}$	-0.14	-0.16	0.02	-0.01	-0.19	0.05	0.01	25.40%
		(-4.00)	(-5.56)	(1.45)	(-1.09)	(-6.57)	(3.43)	(1.07)	

Table 5: **ICAPM Betas of HML Alternative Decomposition 1**

The table shows the estimated market ($\widehat{\beta}$), cash-flow ($\widehat{\beta}_{CF}$), discount-rate ($\widehat{\beta}_{DR}$), and variance ($\widehat{\beta}_{V}$) betas for HML and its intra- and inter-industry components using our first alternative to the baseline approach studied in the main text. The left side of the table runs simple regressions while the right side of the table estimates a multiple regression with all three ICAPM News terms as regressors. The resulting point estimates in both the simple and multiple ICAPM regressions are scaled as in Campbell, Giglio, Polk, and Turley (2018). The sample is 1963Q3-2022Q1, which is then split into two sub-samples in Panels B and C. We report t-statistics in parentheses.

		simple regressions				multiple regression			
		$\widehat{\beta}$	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{R^2}$
Panel A: Full Sample									
(1)	HML	-0.16	-0.24	0.09	-0.11	-0.27	0.10	-0.06	48.40%
		(-3.51)	(-6.77)	(6.14)	(-10.07)	(-8.13)	(7.61)	(-4.77)	
(2)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	-0.04	-0.12	0.08	-0.10	-0.13	0.08	-0.06	43.25%
		(-1.04)	(-3.87)	(7.39)	(-10.56)	(-4.40)	(6.77)	(-6.06)	
(3)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	-0.12	-0.12	0.00	-0.02	-0.14	0.02	0.01	14.36%
		(-4.92)	(-6.00)	(0.22)	(-2.08)	(-6.08)	(2.35)	(0.80)	
Panel B: Pre-1990									
(4)	HML	-0.25	-0.29	0.04	-0.10	-0.28	0.07	-0.04	50.23%
		(-4.75)	(-7.04)	(2.15)	(-8.00)	(-4.91)	(4.54)	(-2.13)	
(5)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	-0.19	-0.23	0.04	-0.08	-0.24	0.06	-0.02	40.84%
		(-3.94)	(-5.89)	(2.29)	(-6.52)	(-4.35)	(4.30)	(-1.36)	
(6)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	-0.06	-0.06	0.00	-0.02	-0.04	0.00	-0.01	4.54%
		(-1.97)	(-2.39)	(0.18)	(-2.70)	(-0.90)	(0.45)	(-1.10)	
Panel C: Post-1990									
(7)	HML	-0.06	-0.20	0.14	-0.13	-0.29	0.13	-0.06	48.49%
		(-0.92)	(-3.46)	(6.56)	(-6.71)	(-6.18)	(6.30)	(-3.09)	
(8)	$\text{HML}^{\text{Alt1}}_{\text{Intra}}$	0.11	-0.03	0.13	-0.12	-0.09	0.11	-0.07	48.42%
		(1.86)	(-0.55)	(8.62)	(-8.11)	(-2.45)	(6.14)	(-4.29)	
(9)	$\text{HML}^{\text{Alt1}}_{\text{Inter}}$	-0.17	-0.17	0.00	-0.01	-0.19	0.03	0.01	21.76%
		(-4.67)	(-5.80)	(0.24)	(-0.80)	(-6.12)	(1.94)	(0.55)	

Table 6: **ICAPM Betas of HML Alternative Decomposition 2**

The table shows the estimated market ($\widehat{\beta}$), cash-flow ($\widehat{\beta}_{CF}$), discount-rate ($\widehat{\beta}_{DR}$), and variance ($\widehat{\beta}_{V}$) betas for HML and its intra- and inter-industry components using our second alternative to the baseline approach studied in the main text. The left side of the table runs simple regressions while the right side of the table estimates a multiple regression with all three ICAPM News terms as regressors. The resulting point estimates in both the simple and multiple ICAPM regressions are scaled as in Campbell, Giglio, Polk, and Turley (2018). The sample is 1963Q3-2022Q1, which is then split into two sub-samples in Panels B and C. We report t-statistics in parentheses.

		simple regressions				multiple regression			
		$\widehat{\beta}$	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{R^2}$
Panel A: Full Sample									
(1)	HML	-0.16	-0.24	0.09	-0.11	-0.27	0.10	-0.06	48.40%
		(-3.51)	(-6.77)	(6.14)	(-10.07)	(-8.13)	(7.61)	(-4.77)	
(2)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	-0.18	-0.23	0.05	-0.11	-0.21	0.05	-0.07	44.60%
		(-4.67)	(-7.41)	(3.85)	(-11.00)	(-6.76)	(4.14)	(-6.57)	
(3)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	0.02	-0.01	0.04	-0.01	-0.07	0.05	0.01	13.54%
		(0.99)	(-0.74)	(5.31)	(-1.25)	(-3.19)	(6.14)	(1.89)	
Panel B: Pre-1990									
(4)	HML	-0.25	-0.29	0.04	-0.10	-0.28	0.07	-0.04	50.23%
		(-4.75)	(-7.04)	(2.15)	(-8.00)	(-4.91)	(4.54)	(-2.13)	
(5)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	-0.28	-0.29	0.01	-0.09	-0.25	0.04	-0.04	47.56%
		(-5.83)	(-7.87)	(0.87)	(-8.07)	(-4.63)	(2.88)	(-2.30)	
(6)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	0.02	0.00	0.02	-0.01	-0.03	0.03	0.00	5.84%
		(0.77)	(-0.11)	(2.89)	(-0.99)	(-0.81)	(2.81)	(0.08)	
Panel C: Post-1990									
(7)	HML	-0.06	-0.20	0.14	-0.13	-0.29	0.13	-0.06	48.49%
		(-0.92)	(-3.46)	(6.56)	(-6.71)	(-6.18)	(6.30)	(-3.09)	
(8)	$\text{HML}^{\text{Alt2}}_{\text{Intra}}$	-0.09	-0.18	0.09	-0.12	-0.21	0.06	-0.09	42.47%
		(-1.50)	(-3.59)	(4.58)	(-7.62)	(-4.98)	(3.19)	(-5.04)	
(9)	$\text{HML}^{\text{Alt2}}_{\text{Inter}}$	0.02	-0.02	0.05	-0.01	-0.08	0.07	0.03	18.58%
		(0.70)	(-0.83)	(4.49)	(-0.84)	(-2.75)	(5.51)	(2.29)	

Table 7: **HML and Quarterly/Daily ICAPM News: Log Returns**

The table shows the estimated market ($\widehat{\beta}$), cash-flow ($\widehat{\beta}_{CF}$), discount-rate ($\widehat{\beta}_{DR}$), and variance ($\widehat{\beta}_{V}$) betas for HML (Panel A), $\text{HML}_{\text{Intra}}$ (Panel B), and $\text{HML}_{\text{Inter}}$ (Panel C) from a multiple regression with all three ICAPM News terms as regressors and using log, rather than simple, returns. In each Panel, the first regression uses quarterly news terms from the quarterly VAR; the second regression uses quarterly news terms constructed by summing daily news terms from the daily VAR; and the third regression uses daily news terms from the daily VAR. We scale the resulting point estimates as in Campbell, Giglio, Polk, and Turley (2018). The sample is 1990Q2-2022Q1. We report t-statistics in parentheses.

	Frequency		Multiple Regression			
	Regression	VAR	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{R^2}$
Panel A: HML						
(1)	Quarterly	Quarterly	-0.27	0.13	-0.06	48.42%
			(-5.91)	(6.22)	(-3.29)	
(2)	Quarterly	Daily	-0.19	0.10	-0.02	41.25%
			(-4.43)	(6.23)	(-1.62)	
(3)	Daily	Daily	-0.07	0.09	-0.01	27.83%
			(-1.47)	(6.80)	(-0.69)	
Panel B: $\text{HML}_{\text{Intra}}$						
(4)	Quarterly	Quarterly	-0.08	0.08	-0.08	46.63%
			(-2.21)	(5.11)	(-4.99)	
(5)	Quarterly	Daily	-0.03	0.06	-0.04	43.38%
			(-0.76)	(4.99)	(-3.85)	
(6)	Daily	Daily	0.02	0.06	-0.03	23.84%
			(0.67)	(7.01)	(-2.48)	
Panel C: $\text{HML}_{\text{Inter}}$						
(7)	Quarterly	Quarterly	-0.19	0.05	0.01	25.40%
			(-6.57)	(3.43)	(1.07)	
(8)	Quarterly	Daily	-0.17	0.04	0.02	25.06%
			(-6.48)	(4.04)	(2.23)	
(9)	Daily	Daily	-0.09	0.03	0.02	14.91%
			(-2.62)	(3.30)	(1.09)	

Table 8: **HML and Quarterly/Daily ICAPM News: Alt. Decomposition 1**

The table shows the estimated market ($\widehat{\beta}$), cash-flow ($\widehat{\beta}_{CF}$), discount-rate ($\widehat{\beta}_{DR}$), and variance ($\widehat{\beta}_{V}$) betas for HML (Panel A), $\text{HML}^{\text{Alt1}}_{\text{Intra}}$ (Panel B), and $\text{HML}^{\text{Alt1}}_{\text{Inter}}$ (Panel C) from a multiple regression with all three ICAPM News terms as regressors and using our first alternative decomposition of HML. In each Panel, the first regression uses quarterly news terms from the quarterly VAR; the second regression uses quarterly news terms constructed by summing daily news terms from the daily VAR; and the third regression uses daily news terms from the daily VAR. We scale the resulting point estimates as in Campbell, Giglio, Polk, and Turley (2018). The sample is 1990Q2-2022Q1. We report t-statistics in parentheses.

	Frequency		Multiple Regression			
	Regression	VAR	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{R^2}$
Panel A: HML						
(1)	Quarterly	Quarterly	-0.29	0.13	-0.06	48.49%
			(-6.18)	(6.30)	(-3.09)	
(2)	Quarterly	Daily	-0.21	0.10	-0.02	41.54%
			(-4.71)	(6.23)	(-1.58)	
(3)	Daily	Daily	-0.08	0.09	-0.02	27.78%
			(-1.63)	(6.68)	(-0.74)	
Panel B: $\text{HML}^{\text{Alt1}}_{\text{Intra}}$						
(4)	Quarterly	Quarterly	-0.09	0.11	-0.07	48.42%
			(-2.45)	(6.14)	(-4.29)	
(5)	Quarterly	Daily	-0.03	0.08	-0.03	40.86%
			(-0.80)	(5.68)	(-2.58)	
(6)	Daily	Daily	0.07	0.05	-0.02	24.62%
			(2.39)	(5.80)	(-1.83)	
Panel C: $\text{HML}^{\text{Alt1}}_{\text{Inter}}$						
(7)	Quarterly	Quarterly	-0.19	0.03	0.01	21.76%
			(-6.12)	(1.94)	(0.55)	
(8)	Quarterly	Daily	-0.18	0.03	0.01	23.66%
			(-6.38)	(2.53)	(0.82)	
(9)	Daily	Daily	-0.16	0.03	0.01	11.69%
			(-4.81)	(3.37)	(0.87)	

Table 9: **HML and Quarterly/Daily ICAPM News: Alt. Decomposition 2**

The table shows the estimated market ($\widehat{\beta}$), cash-flow ($\widehat{\beta}_{CF}$), discount-rate ($\widehat{\beta}_{DR}$), and variance ($\widehat{\beta}_{V}$) betas for HML (Panel A), $\text{HML}^{\text{Alt2}}_{\text{Intra}}$ (Panel B), and $\text{HML}^{\text{Alt2}}_{\text{Inter}}$ (Panel C) from a multiple regression with all three ICAPM News terms as regressors and using our second alternative decomposition of HML. In each Panel, the first regression uses quarterly news terms from the quarterly VAR; the second regression uses quarterly news terms constructed by summing daily news terms from the daily VAR; and the third regression uses daily news terms from the daily VAR. We scale the resulting point estimates as in Campbell, Giglio, Polk, and Turley (2018). The sample is 1990Q2-2022Q1. We report t-statistics in parentheses.

	Frequency		Multiple Regression			
	Regression	VAR	$\widehat{\beta}_{DR}$	$\widehat{\beta}_{CF}$	$\widehat{\beta}_{V}$	$\widehat{R^2}$
			Panel A: HML			
(1)	Quarterly	Quarterly	-0.29	0.13	-0.06	48.49%
			(-6.18)	(6.30)	(-3.09)	
(2)	Quarterly	Daily	-0.21	0.10	-0.02	41.54%
			(-4.71)	(6.23)	(-1.58)	
(3)	Daily	Daily	-0.08	0.09	-0.02	27.78%
			(-1.63)	(6.68)	(-0.74)	
			Panel B: $\text{HML}^{\text{Alt2}}_{\text{Intra}}$			
(4)	Quarterly	Quarterly	-0.21	0.06	-0.09	42.47%
			(-4.98)	(3.19)	(-5.04)	
(5)	Quarterly	Daily	-0.16	0.06	-0.03	32.76%
			(-3.90)	(4.27)	(-2.34)	
(6)	Daily	Daily	-0.02	0.04	-0.03	24.43%
			(-0.81)	(5.90)	(-2.79)	
			Panel C: $\text{HML}^{\text{Alt2}}_{\text{Inter}}$			
(7)	Quarterly	Quarterly	-0.08	0.07	0.03	18.58%
			(-2.75)	(5.51)	(2.29)	
(8)	Quarterly	Daily	-0.09	0.03	-0.01	22.42%
			(-32.55)	(33.18)	(-14.58)	
(9)	Daily	Daily	-0.05	0.03	0.02	11.41%
			(-1.40)	(3.37)	(1.59)	

Table 10: **Daily Vector Autoregression Estimation**

The table shows the ordinary least squares (OLS) parameter estimates for a daily first-order vectorautoregression (VAR) model. The state variables in the VAR are the log real return on the CRSP value-weight index (r_M), the squared simple nominal return ($RVAR$) on the CRSP value-weight index, the log ratio of the S&P 500's price to its 10-year moving average of earnings (PE), the term yield spread ($TERM$) in percentage points, measured as the difference between the log yield on 10-year Treasuries and the log yield on 3-month Treasuries, the default yield spread (DEF) in percentage points, measured as the difference between the log yield on Moody's BAA bonds and the log yield on Moody's AAA bonds, the small-stock value spread (VS), the difference in the log book-to-market ratios of small-value and small-growth stocks, the log real return accumulated over the last 60 trading days (r_M^{60}), the realized variance ($RVAR$) of daily simple returns on the CRSP value-weight index over the last 60 trading days, and the squared value of the VIX. Columns 1–10 report coefficients on an intercept and the nine explanatory variables, and Column 11 shows the R^2 statistic. We report t-statistics in parentheses. The sample period for the dependent variables is January 4, 1990–March 31, 2022, with 8,124 daily data points.

	Constant	$r_{M,t}$	R_t^2	PE_t	$TERM_t$	DEF_t	VS_t	$r_{M,t}^{60}$	$RVAR_t$	VIX_t^2	R^2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
$r_{M,t+1}$	0.0087	-0.0428	0.8360	-0.0023	-0.0002	-0.0015	0.0003	0.0013	-0.0046	0.0103	0.52%
	(3.05)	(-1.40)	(1.28)	(-2.68)	(-1.68)	(-1.67)	(0.38)	(0.55)	(-0.15)	(0.81)	
R_{t+1}^2	-0.0001	-0.0005	0.0009	0.0000	0.0000	0.0000	0.0001	-0.0003	-0.0057	0.0058	28.46%
	(-0.57)	(-0.43)	(0.01)	(-0.85)	(-1.08)	(-0.12)	(1.63)	(-2.78)	(-2.66)	(5.67)	
PE_{t+1}	0.0087	-0.0733	0.8830	0.9976	-0.0002	-0.0017	0.0006	0.0012	-0.0144	0.0124	99.76%
	(3.02)	(-2.43)	(1.33)	(1159.41)	(-1.37)	(-1.76)	(0.68)	(0.48)	(-0.47)	(0.96)	
$TERM_{t+1}$	0.0193	-0.2350	8.2898	-0.0073	0.9972	0.0036	0.0038	0.0180	-0.2913	0.0452	99.68%
	(1.36)	(-2.43)	(2.94)	(-1.95)	(1399.59)	(0.96)	(1.22)	(1.49)	(-2.25)	(0.91)	
DEF_{t+1}	0.0147	-0.0319	-1.6620	-0.0039	-0.0003	0.9923	0.0021	-0.0197	-0.1780	0.1032	99.67%
	(2.48)	(-0.93)	(-1.12)	(-2.35)	(-1.04)	(505.43)	(1.53)	(-3.66)	(-2.95)	(4.37)	
VS_{t+1}	.0075	0.0368	-0.5394	-0.0013	-0.0003	-0.0007	0.9984	0.0029	0.0098	0.0133	99.75%
	(2.68)	(3.18)	(-1.07)	(-1.66)	(-3.19)	(-1.02)	(1185.32)	(1.30)	(0.39)	(1.90)	
$r_{M,t+1}^{60}$	0.0091	-0.0246	1.0073	-0.0020	-0.0002	-0.0013	0.0000	0.9779	0.1084	-0.0302	95.86%
	(2.34)	(-0.69)	(1.16)	(-1.74)	(-1.32)	(-1.05)	(-0.05)	(260.94)	(2.03)	(-1.96)	
$RVAR_{t+1}$	-0.0002	0.0013	0.0230	0.0000	0.0000	-0.0001	0.0001	-0.0017	0.9791	0.0059	99.81%
	(-0.70)	(1.09)	(0.22)	(0.18)	(0.16)	(-0.77)	(1.05)	(-4.37)	(182.94)	(4.85)	
VIX_{t+1}^2	0.0086	0.1111	0.1276	0.0025	0.0001	0.0028	-0.0002	-0.0037	0.0585	0.9420	93.23%
	(-3.69)	(1.92)	(0.09)	(3.22)	(1.05)	(2.94)	(-0.16)	(-1.29)	(1.38)	(50.43)	

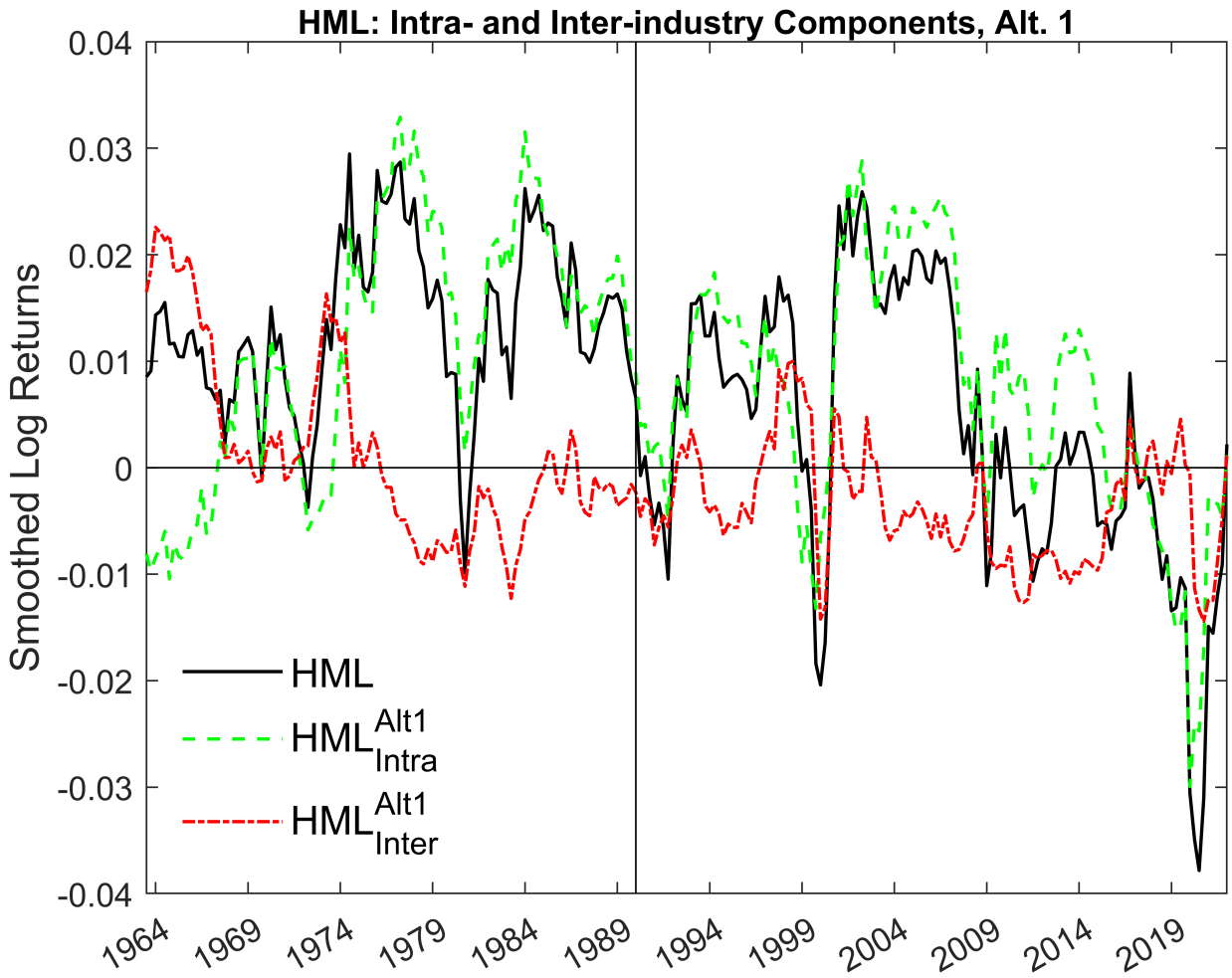

Figure 1: We plot the results from the Appendix Table 2 decomposition of HML into its intra- and inter-industry components for the Compustat period from 1963Q3-2022Q1 using the first alternative way of measuring HML's intra-industry component. The solid black line shows the smoothed log return to Fama and French's (1993) HML; the dashed green line shows the smoothed log return to the intra-industry component of HML; and the dashed-dotted red line shows the smoothed log return to the inter-industry component. The series are smoothed with a trailing exponentially weighted moving average in which the decay parameter is set to 0.08 per quarter, and the smoothed series is generated, for example, as $MA_t(\text{HML}) = 0.08\text{HML}_t + (1\text{-}0.08)MA_{t-1}(\text{HML})$. This decay parameter implies a half-life of two years. The vertical line indicates the start of the subperiod 1990Q2-2022Q1.

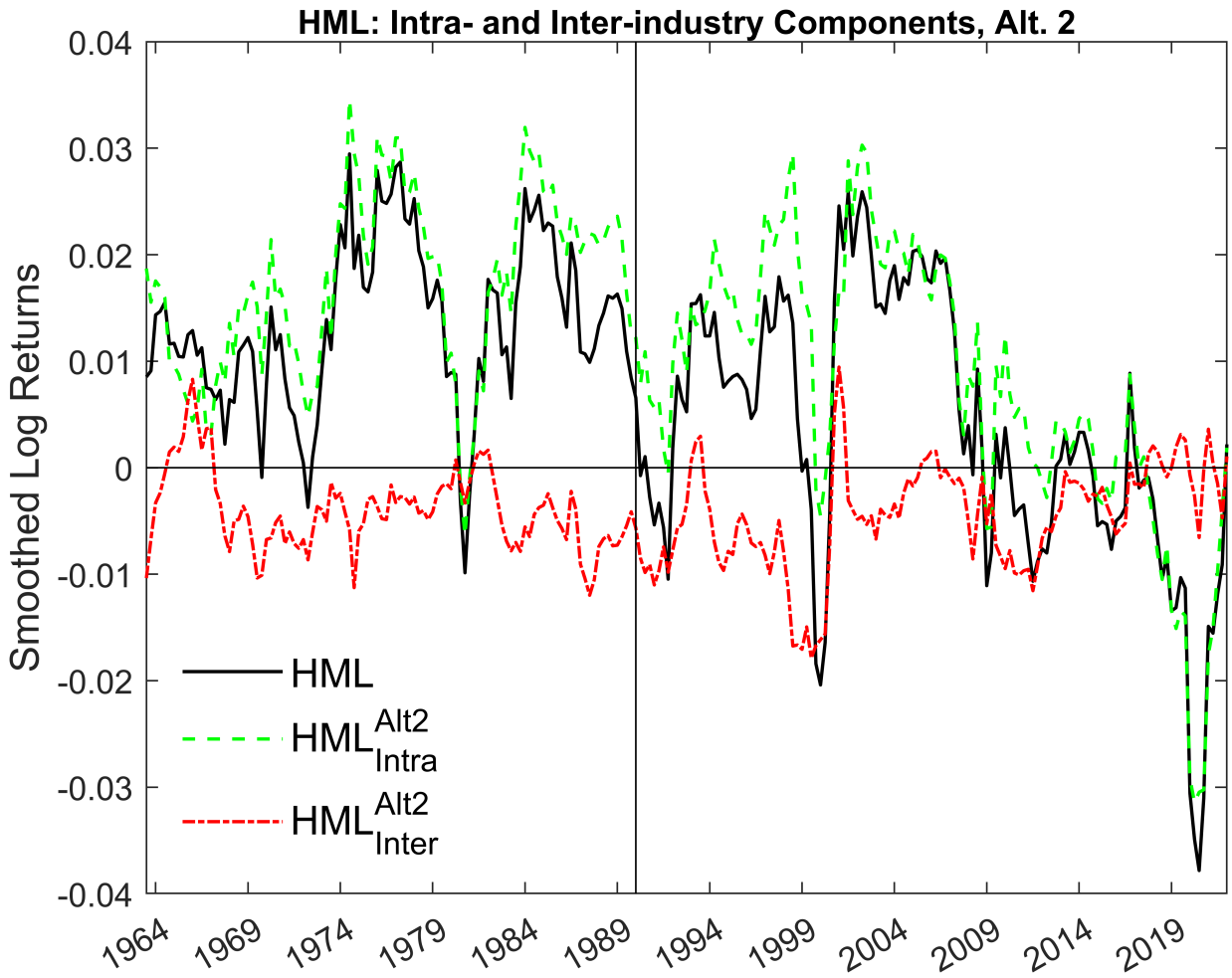

Figure 2: We plot the results from the Appendix Table 3 decomposition of HML into its intra- and inter-industry components for the Compustat period from 1963Q3-2022Q1 using the second alternative way of measuring HML's intra-industry component. The solid black line shows the smoothed log return to Fama and French's (1993) HML; the dashed green line shows the smoothed log return to the intra-industry component of HML; and the dashed-dotted red line shows the smoothed log return to the inter-industry component. The series are smoothed with a trailing exponentially weighted moving average in which the decay parameter is set to 0.08 per quarter, and the smoothed series is generated, for example, as $MA_t(\text{HML}) = 0.08\text{HML}_t + (1\text{-}0.08)MA_{t-1}(\text{HML})$. This decay parameter implies a half-life of two years. The vertical line indicates the start of the subperiod 1990Q2-2022Q1.

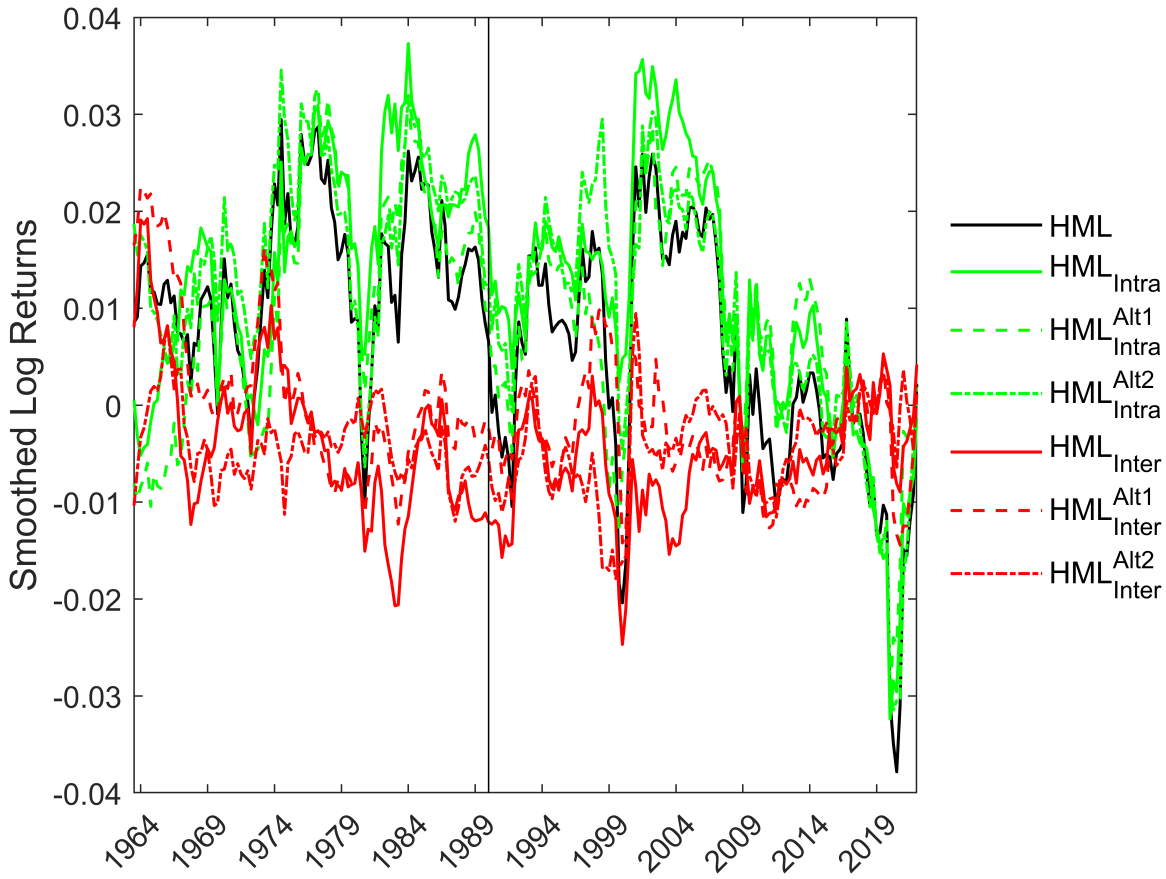

Figure 3: This figure plots the results from the three decompositions of HML into intra- and inter-industry components for the Compustat period from 1963Q3-2022Q1. The solid black line shows the cumulative log return to Fama and French's (1993) HML; the green lines show the cumulative log return to the various intra-industry components of HML; and the red lines show the cumulative log return to the corresponding inter-industry components. The vertical line indicates the start of the subperiod 1990Q2-2022Q1.

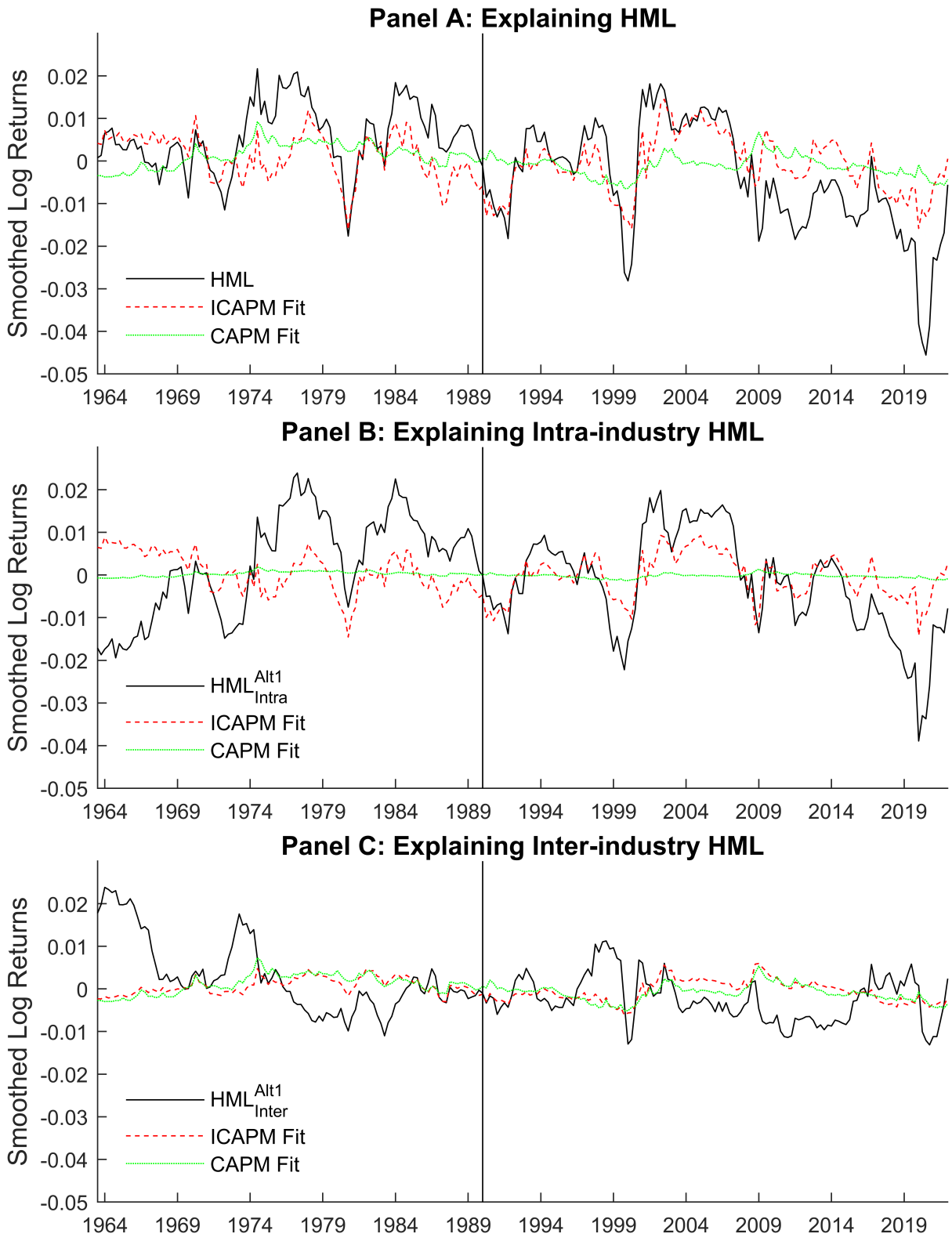

Figure 4: We explain time-series variation in demeaned HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ where we use our first alternative way of measuring HML's intra-industry component. Smoothed log returns are plotted with a solid black line while smoothed ICAPM (CAPM) fitted values are plotted with a dashed red (dotted green) line.

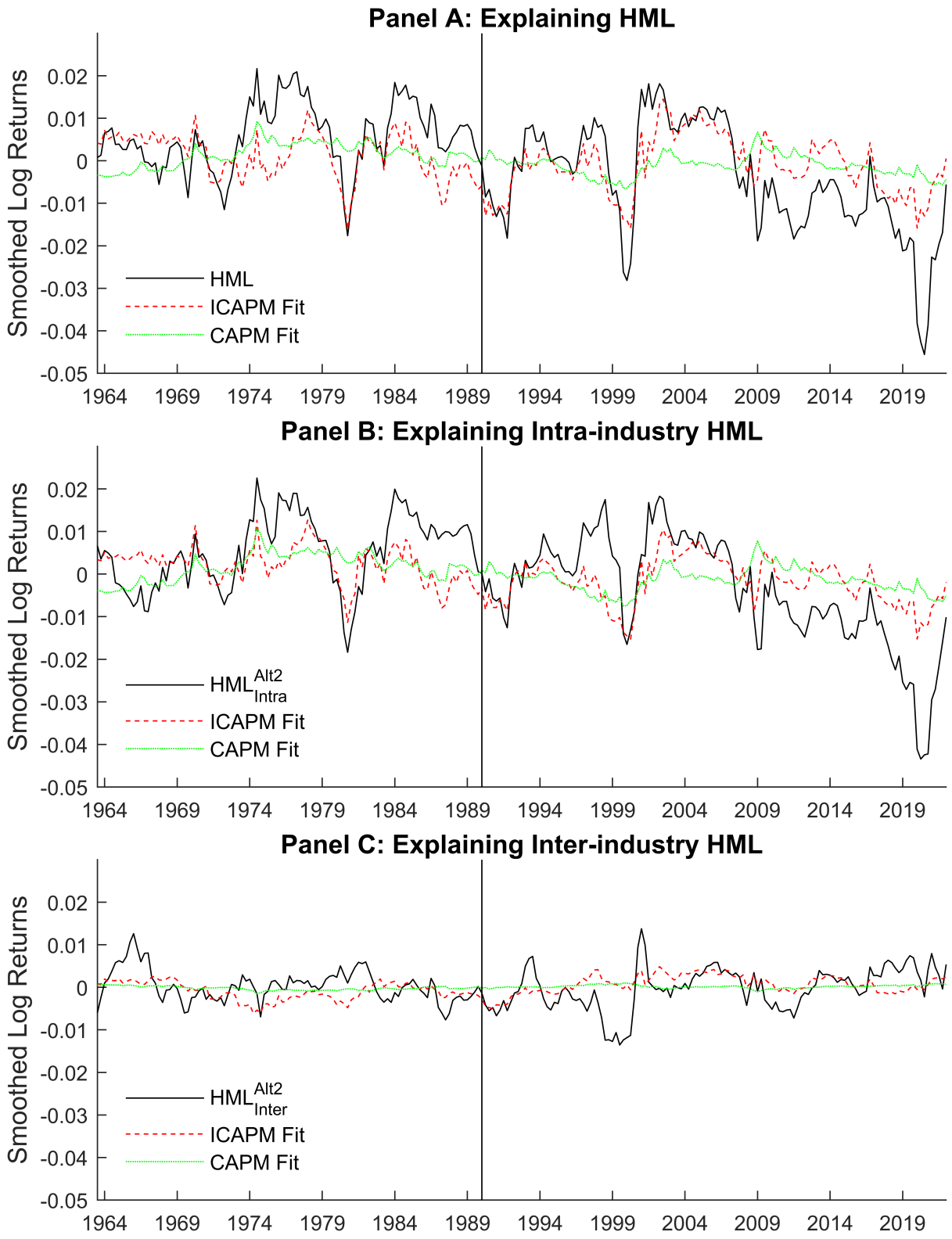

Figure 5: We explain time-series variation in demeaned HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ where we use our second alternative way of measuring HML's intra-industry component. Smoothed log returns are plotted with a solid black line while smoothed ICAPM (CAPM) fitted values are plotted with a dashed red (dotted green) line.

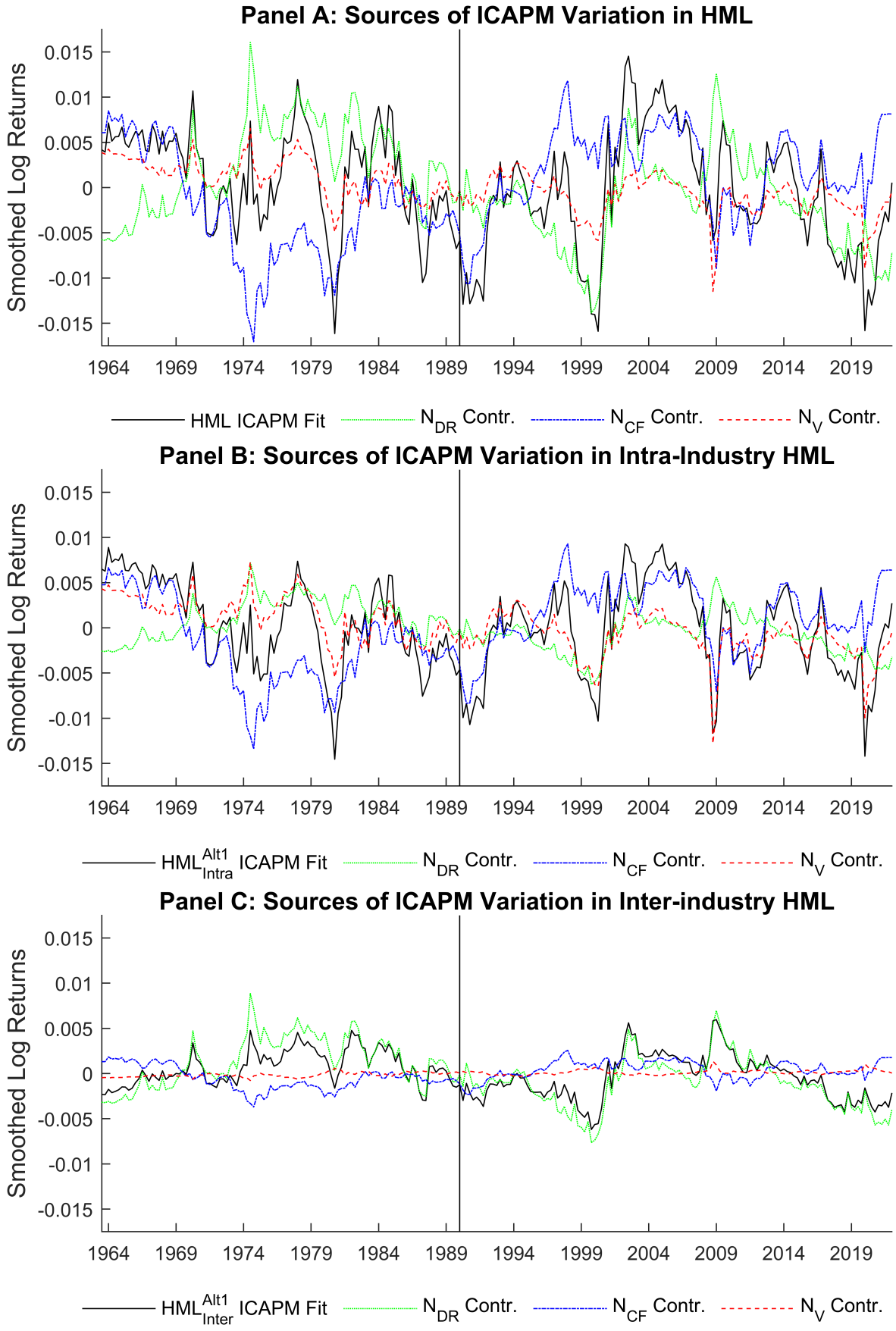

Figure 6: We plot the components of the ICAPM fit for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ using the first alternative way of measuring HML's intra-industry component. The solid black line shows the smoothed ICAPM fit; the dashed green line shows the smoothed contribution of N_{DR}; the dashed blue line shows the smoothed contribution of N_{CF}; and the dashed red line shows the smoothed contribution of N_{V}.

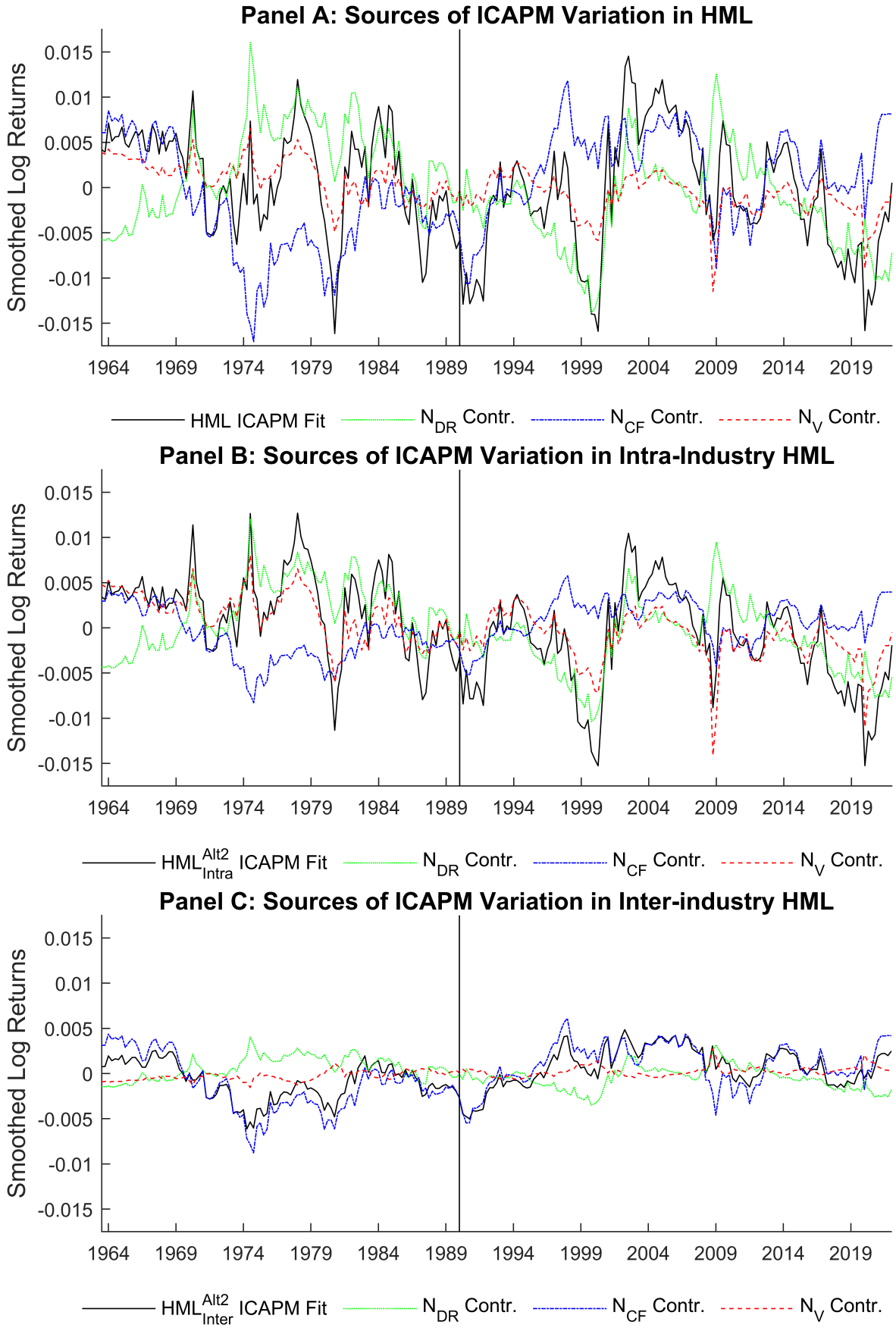

Figure 7: We plot the components of the ICAPM fit for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ using the second alternative way of measuring HML's intra-industry component. The solid black line shows the smoothed ICAPM fit; the dashed green line shows the smoothed contribution of N_{DR}; the dashed blue line shows the smoothed contribution of N_{CF}; and the dashed red line shows the smoothed contribution of N_{V}.

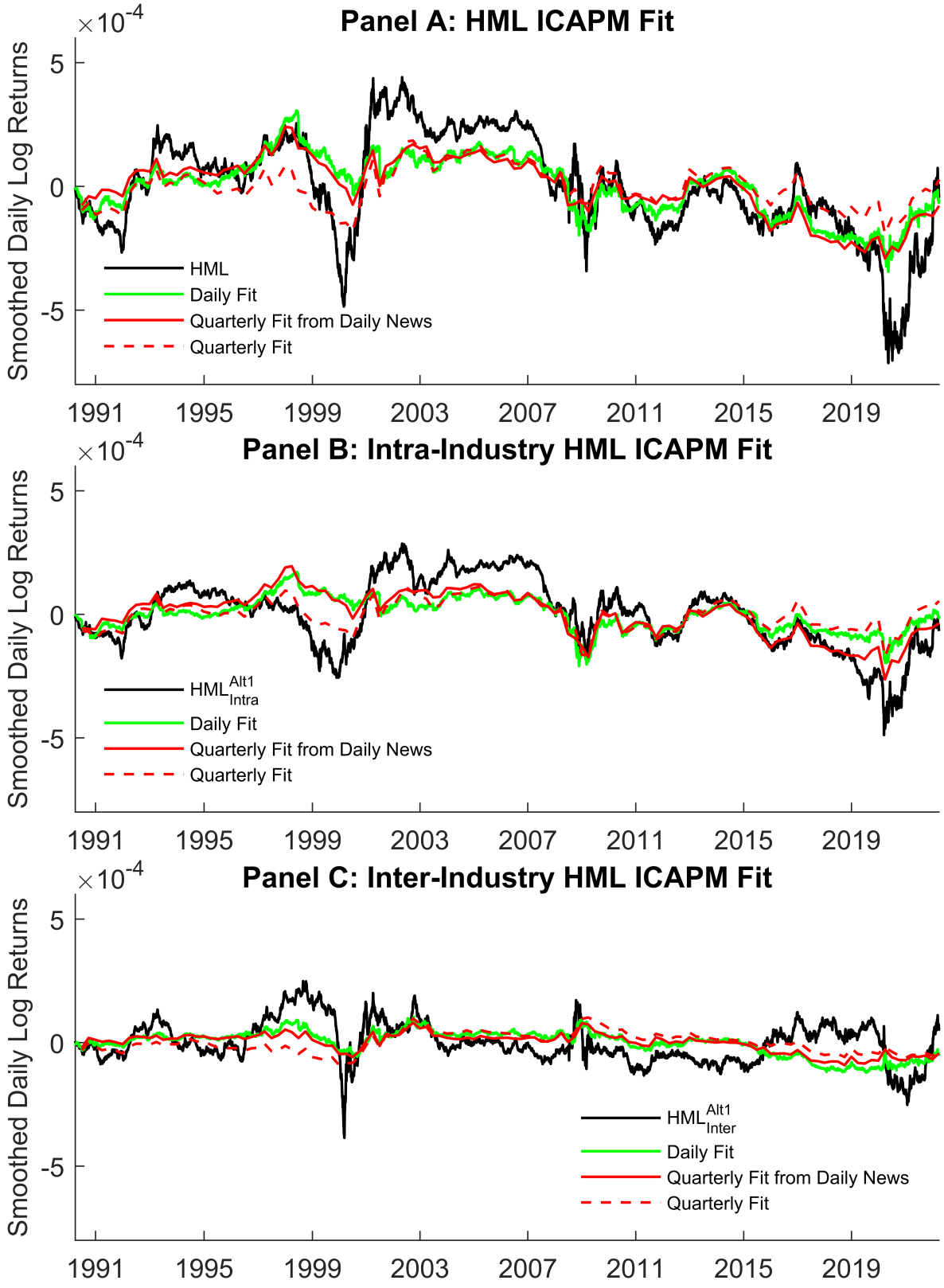

Figure 8: We plot smoothed ICAPM Fits for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ (using the first alternative way of measuring HML's intra-industry component) over the 19900402-20220331 subsample as generated by the quarterly VAR in Appendix Table 1 and daily VAR in Appendix Table 2.

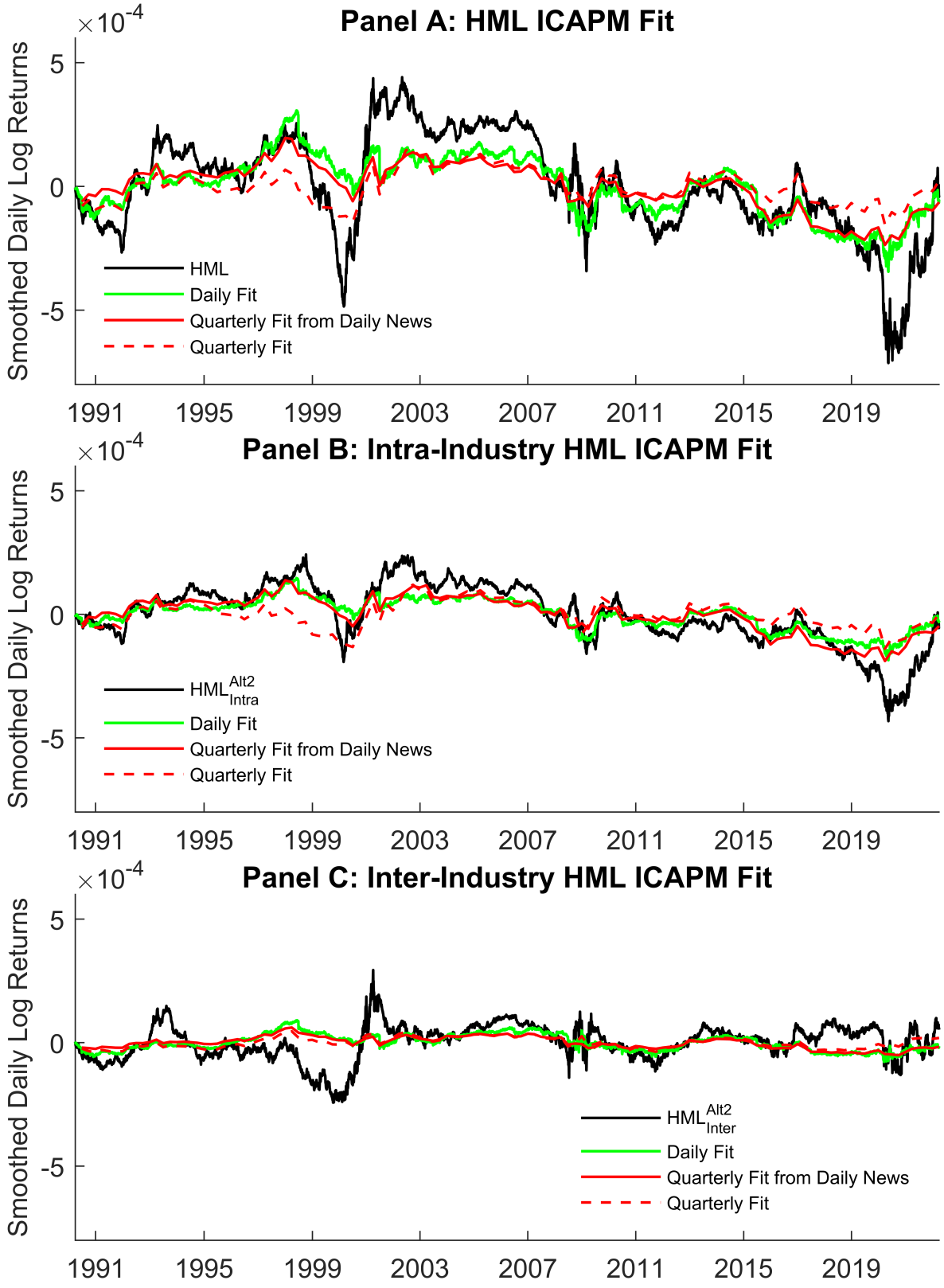

Figure 9: We plot smoothed ICAPM Fits for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ (using the second alternative way of measuring HML's intra-industry component) over the 19900402-20220331 subsample as generated by the quarterly VAR in Appendix Table 1 and daily VAR in Appendix Table 2.

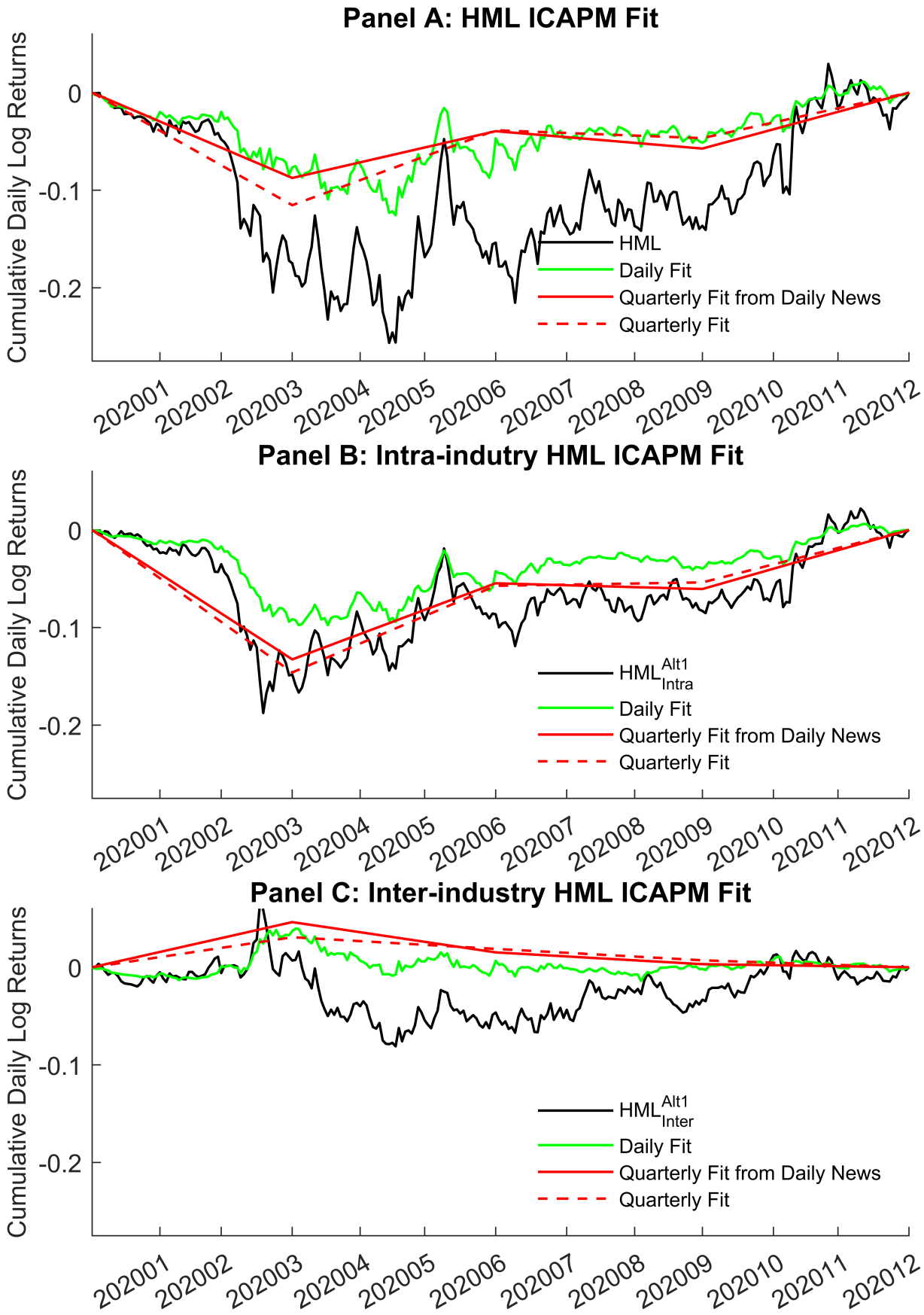

Figure 10: We plot various cumulative ICAPM fits for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ (using the first alternative way of measuring HML's intra-industry component) from the quarterly and daily VARs for the 20200101-20201231 subsample.

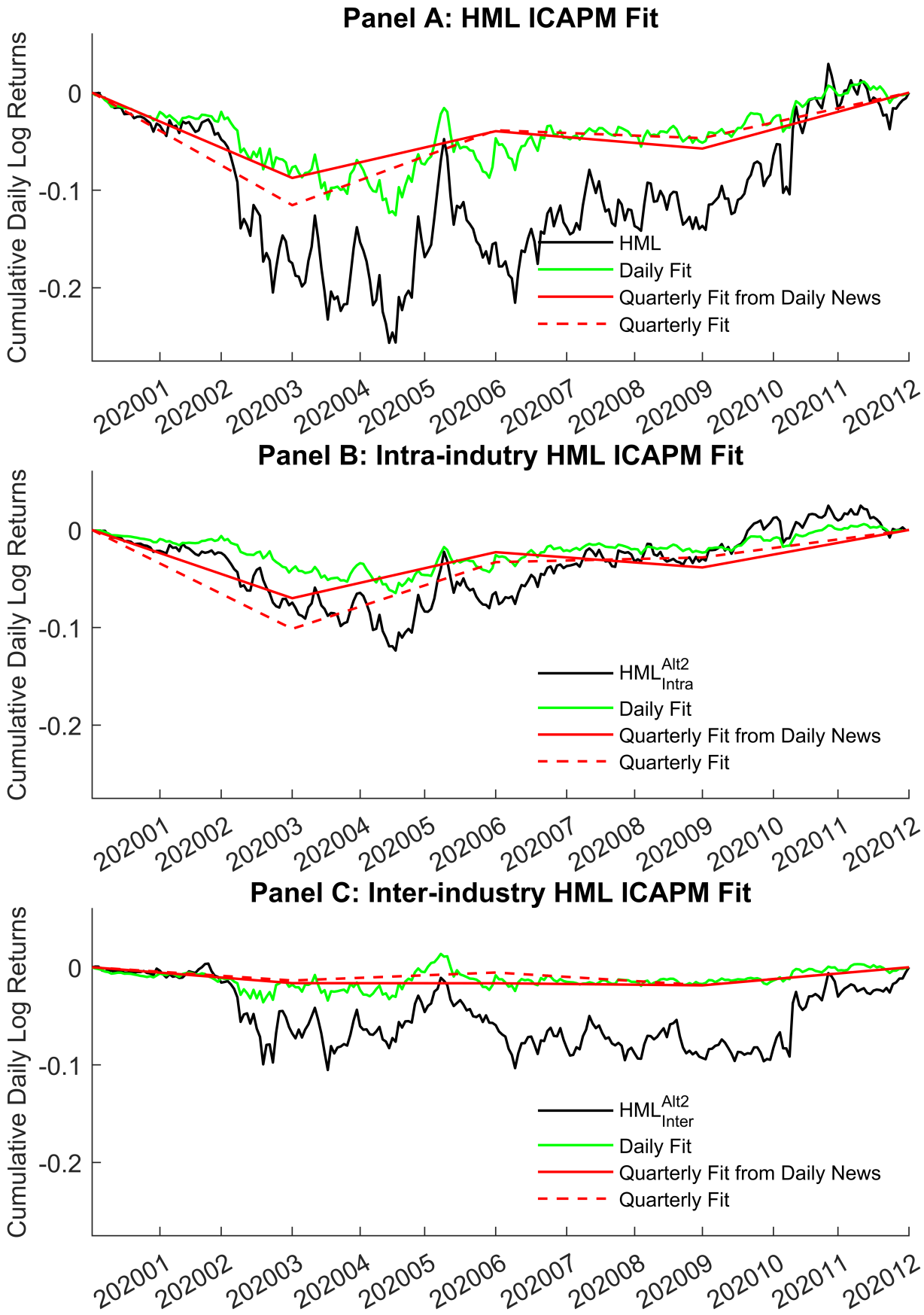

Figure 11: We plot various cumulative ICAPM fits for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ (using the second alternative way of measuring HML's intra-industry component) from the quarterly and daily VARs for the 20200101-20201231 subsample.

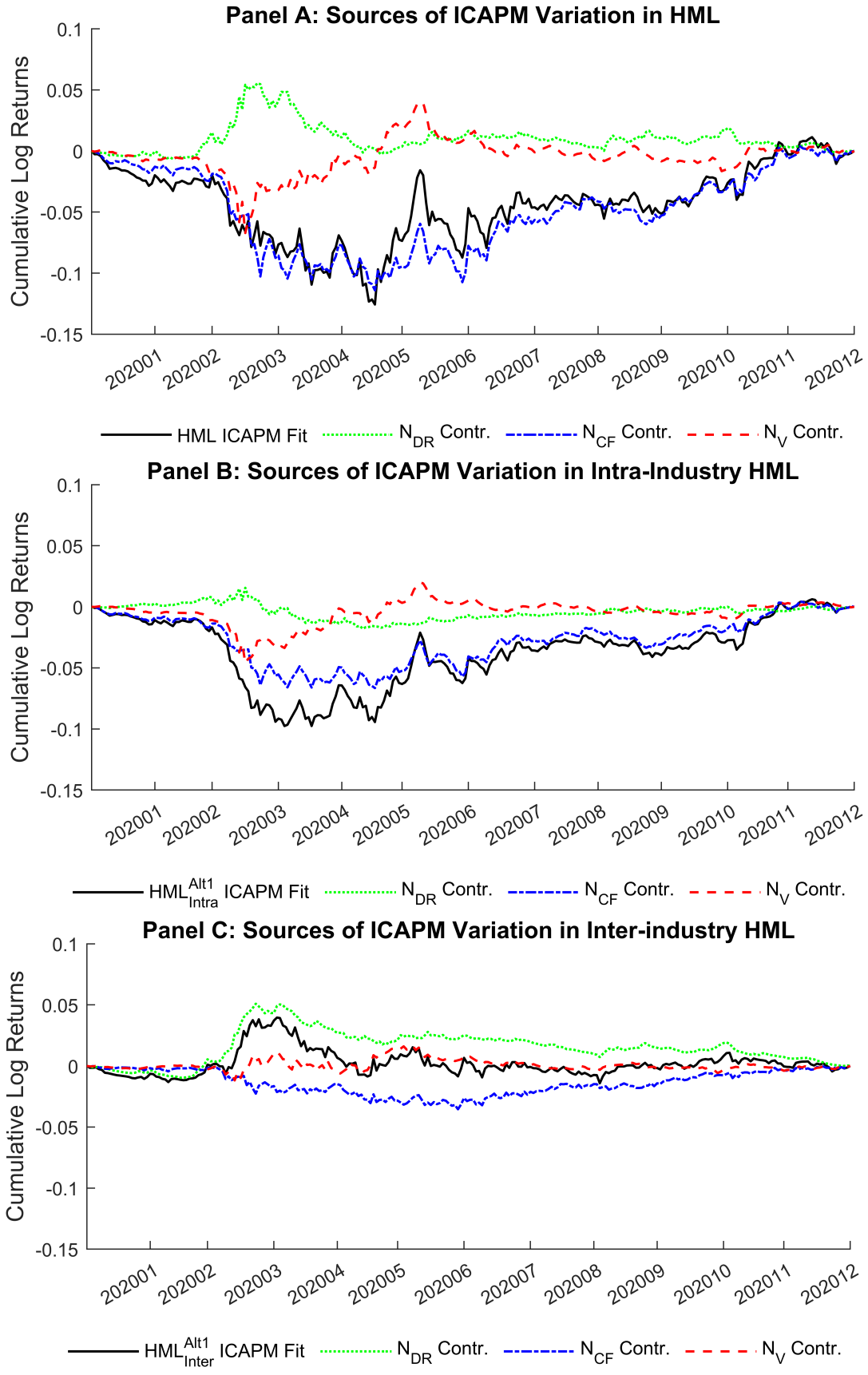

Figure 12: We plot the components of the ICAPM fit for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ (using the first alternative way of measuring HML's intra-industry component) for the 20200101-20201231 subsample. The solid black line shows the smoothed ICAPM fit; the dashed green line shows the smoothed contribution of N_{DR}; the dashed blue line shows the smoothed contribution of N_{CF}; and the dashed red line shows the smoothed contribution of N_{V}.

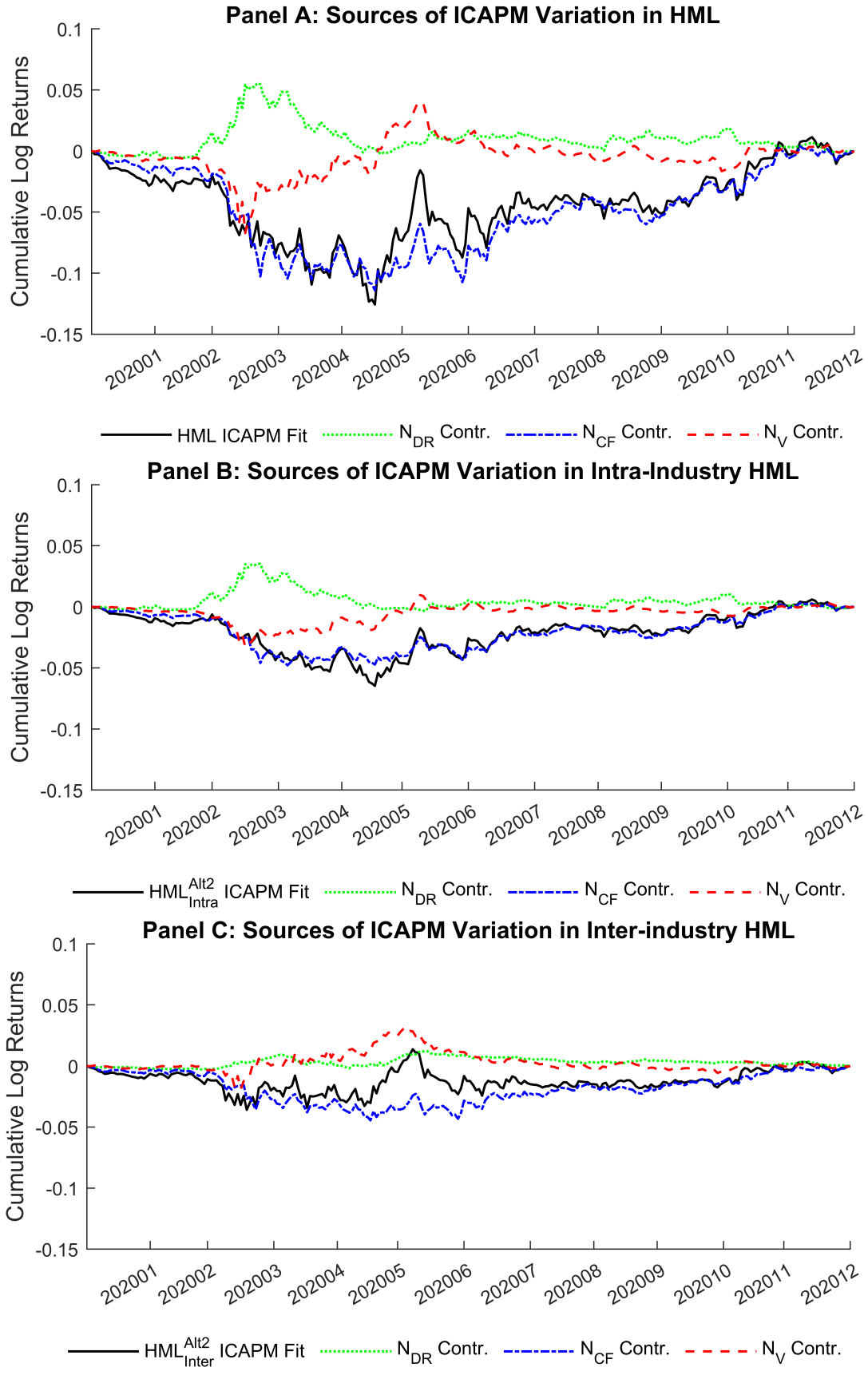

Figure 13: We plot the components of the ICAPM fit for HML, $\text{HML}_{\text{Intra}}$, and $\text{HML}_{\text{Inter}}$ (using the second alternative way of measuring HML's intra-industry component) for the 20200101-20201231 subsample. The solid black line shows the smoothed ICAPM fit; the dashed green line shows the smoothed contribution of N_{DR}; the dashed blue line shows the smoothed contribution of N_{CF}; and the dashed red line shows the smoothed contribution of N_{V}.

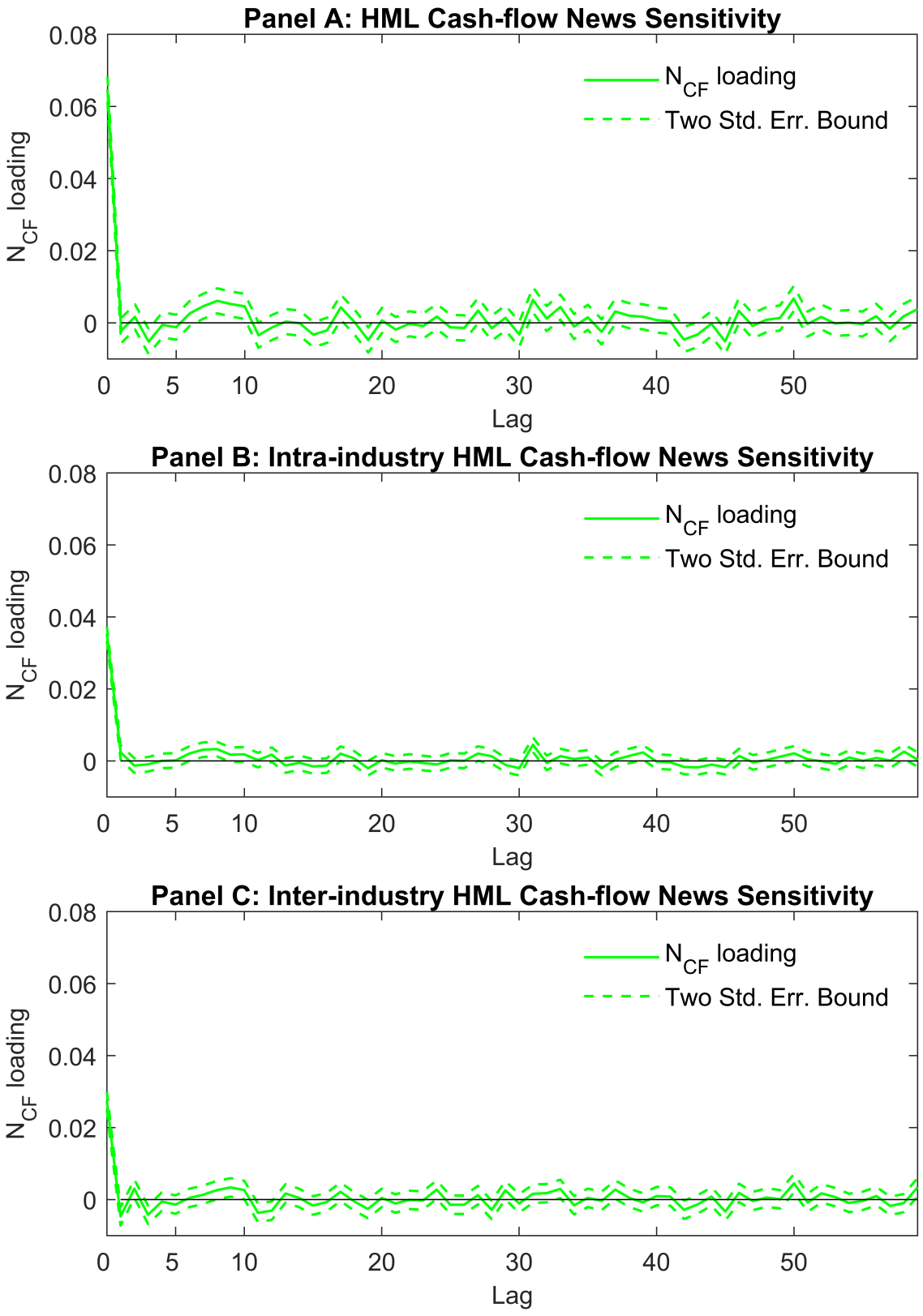

Figure 14: This figure shows the coefficients on contemporaneous and lagged cash-flow news that correspond to the daily ICAPM regressions in Table 4 of the main paper.

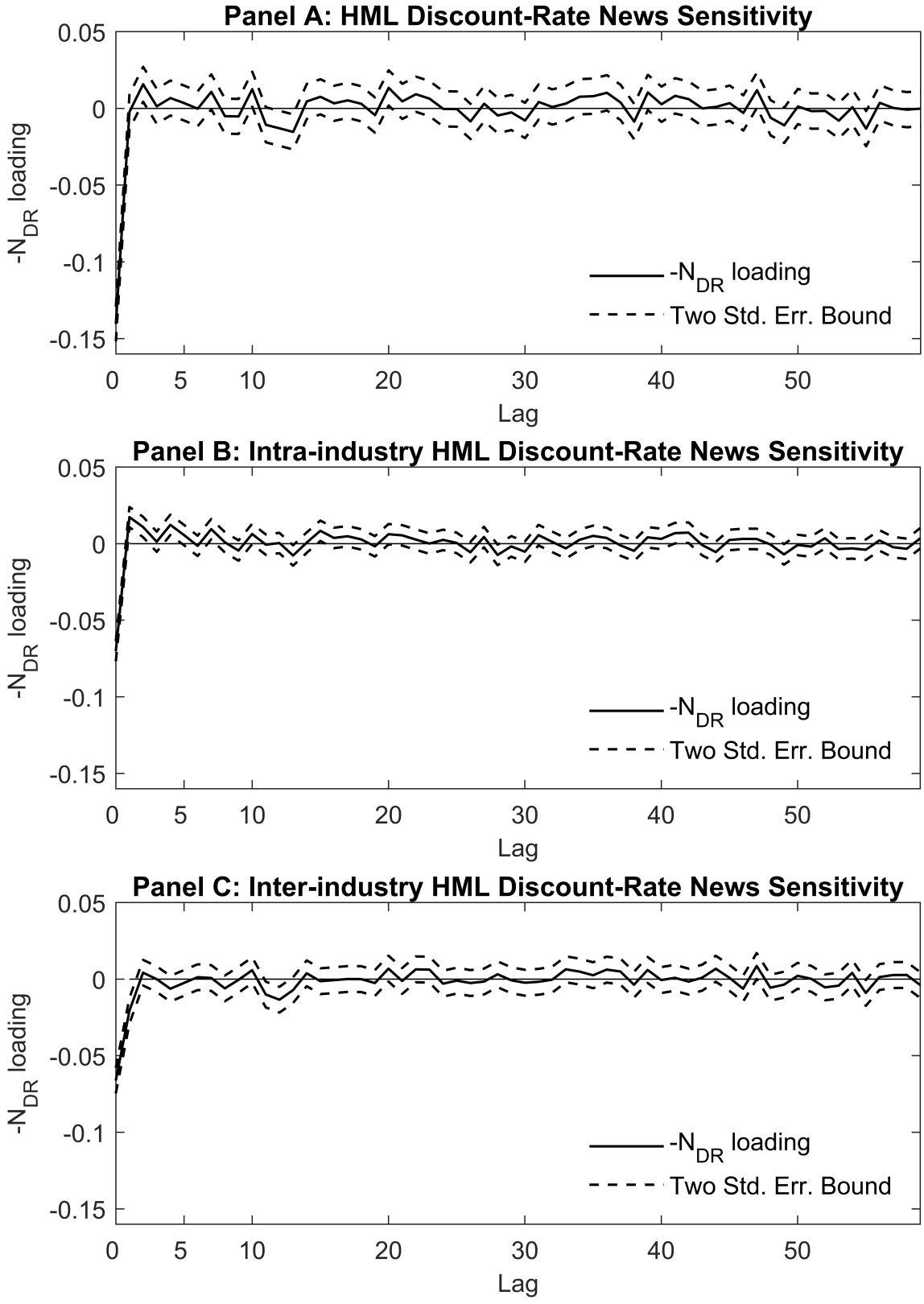

Figure 15: This figure shows the coefficients on contemporaneous and lagged negative discount-rate news that correspond to the daily ICAPM regressions in Table 4 of the main paper.

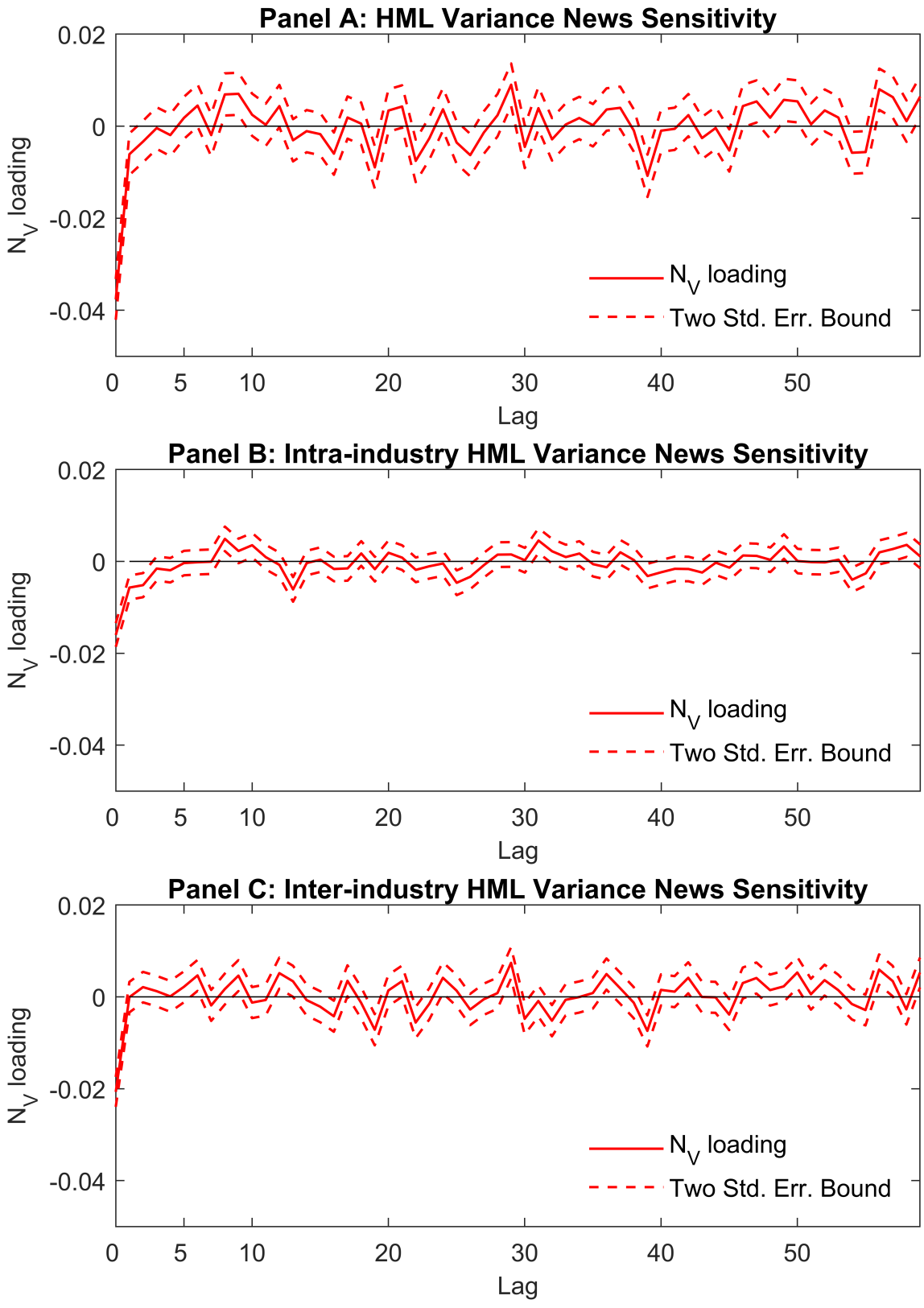

Figure 16: This figure shows the coefficients on contemporaneous and lagged variance news that correspond to the daily ICAPM regressions in Table 4 of the main paper.