

Dispersion in Analysts' Earnings Forecasts and Credit Rating

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The Dispersion Effect

- Buying stocks with low dispersion in analysts earnings forecasts and selling stocks with high dispersion yields statistically significant and economically large payoffs (Diether, Malloy, and Scherbina (2002)).
 - This *negative* relation between dispersion and returns (**dispersion effect**) is an anomaly.
 - Investors pay a premium for bearing uncertainty.
- This anomaly is unexplained by the Fama and French (1993) three-factor model, and by the Fama-French model augmented by a momentum factor.
- Suggested causes for the dispersion effect:
 - **difference of opinion** among investors and market frictions that prevent the revelation of negative opinions (Diether, Malloy, and Scherbina (2002)),
 - **unpriced information risk** (Johnson (2004)) – dispersion proxies for idiosyncratic risk, which, in the presence of leverage, is negatively related with returns,
 - **illiquidity** (Sadka and Scherbina (2007)) explains the persistence of the dispersion effect.

This paper's contribution:
The Dispersion Effect Results from Financial Distress,
proxied by credit risk
Why credit risk?

■ Theoretical motivation:

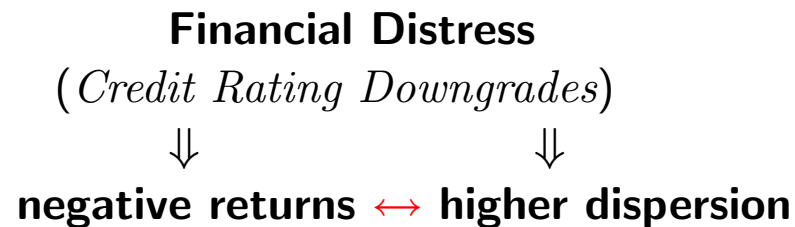
- In a structural framework (Merton (1974)), default risk as a function of the uncertainty in the firm value process, which depends on all future earnings.
- Dispersion in earnings forecasts measures uncertainty in next year's earnings.
⇒ Credit risk subsumes dispersion.

■ Empirical evidence:

- Investors pay a premium for bearing credit risk (Dichev (1998), Campbell, Hilscher, and Szilagyi (2007), Griffin and Lemmon (2002), Avramov, Chordia, Jostova, and Philipov (2006)) – same anomalous pattern.
- Both dispersion and credit risk are related to momentum (Zhang (2006), Avramov, Chordia, Jostova, and Philipov (2007)), suggesting a link between the two. Moreover, credit risk subsumes dispersion in explaining momentum.

Results

- **The dispersion effect is driven exclusively by the worst-rated firms:**
 - Dispersion strategies yield an insignificant 31 bp/mo for investment grade, and a strongly significant 101 bp/mo for non-investment grade firms.
 - Dispersion strategies do not work for a subsample of AAA to BB+ rated firms – 95.5% market cap (74% of the number) of rated firms.
- **The dispersion effect is only present during period of financial distress:**
 - Relation only exists during periods around credit rating downgrades – only 8% of all obs.
 - In such periods, the negative dispersion-return relation emerges as low-rated firms experience: substantial price drop along with considerable increase in forecast dispersion:



- **Even for this small universe of worst rated stock, the dispersion-return relation disappears when either dispersion or returns are adjusted by credit risk.**
 - The results are robust to previously proposed explanations, such as short-sale constraints, illiquidity, and leverage, at least in our sample of rated firms.

Data

- Monthly returns on all NYSE, AMEX, and NASDAQ stocks in CRSP between 1985 and 2003 with analyst data on I/B/E/S – 12,312 firms after removing:
 - stocks with less than 6 month return data,
 - stocks priced below \$5.
- Of these **3,261 firms** are rated by Standard & Poor's – our final sample.
- The dispersion effect is similar for rated and unrated firms (see Table 1).
- Dispersion is computed as: $DISP = \frac{\sigma_{EPSFY1}}{|\mu_{EPSFY1}|}$
- For the credit ratings, we use the *Long Term Issuer Credit Rating* (Compustat 'SPDR') and transform it into a numerical score from 1 (AAA) to 22 (D).
- The dispersion portfolio returns are equally weighted across all stocks.

Table 1
Dispersion Strategy Payoffs For Rated and Unrated Firms

PANEL A: Dispersion Strategy Profits

Sample	All Firms		Unrated Firms		Rated Firms	
	1	3	1	3	1	3
Number of Firms	12,312		9,051		3,261	
Overall	0.79 (5.16)	0.75 (4.56)	0.72 (7.02)	0.71 (6.15)	0.76 (3.35)	0.69 (3.06)
Non-January	0.89 (5.52)	0.87 (4.98)	0.78 (7.30)	0.79 (6.49)	0.92 (3.88)	0.85 (3.62)
January	-0.30 (-0.73)	-0.51 (-1.23)	0.06 (0.17)	-0.15 (-0.49)	-1.02 (-1.51)	-1.07 (-1.52)
Expansion	0.74 (4.83)	0.68 (4.19)	0.70 (6.86)	0.68 (6.10)	0.68 (2.96)	0.60 (2.63)
Recession	1.46 (1.82)	1.59 (1.78)	0.94 (1.73)	1.03 (1.49)	1.75 (1.65)	1.82 (1.72)

Table 2
Composition of Dispersion Portfolios

Portfolio	Percentage of Stocks			Returns (% per month)				Rating
	UR	IG	NIG	UR	IG	NIG	All	
D1	65.12	27.42	7.46	1.64	1.32	1.20	1.51	7.20
D2	59.10	32.79	8.10	1.48	1.23	0.45	1.28	7.43
D3	60.18	29.71	10.11	1.35	1.25	0.71	1.21	8.14
D4	60.82	25.50	13.68	1.28	1.19	0.47	1.08	9.05
D5	59.04	17.96	23.00	0.92	1.01	0.19	0.72	10.88
D1 - D5				0.72 (7.02)	0.31 (1.41)	1.01 (3.64)	0.79 (5.16)	

Table 3
Returns By Sequentially Sorted Credit Rating (C1-C5) And Dispersion Groups (D1-D5)

PANEL A: Raw Returns

A1: K=1 Month Holding Period						
	D1	D2	D3	D4	D5	D1-D5
C1	1.40 (4.60)	1.26 (4.21)	1.30 (4.53)	1.27 (4.32)	1.28 (3.89)	0.11 (0.55)
C2	1.37 (4.57)	1.18 (3.97)	1.29 (4.06)	1.30 (4.00)	1.21 (3.51)	0.15 (0.77)
C3	1.23 (4.05)	1.18 (3.70)	1.17 (3.69)	1.24 (3.74)	0.93 (2.56)	0.30 (1.45)
C4	1.24 (3.42)	1.10 (3.09)	0.95 (2.48)	0.89 (2.34)	0.62 (1.49)	0.62 (2.71)
C5	0.82 (1.97)	0.48 (1.10)	0.23 (0.47)	0.08 (0.18)	-0.03 (-0.06)	0.85 (2.88)
C1-C5	0.57 (1.87)	0.77 (2.44)	1.07 (3.10)	1.19 (3.78)	1.31 (4.17)	
A2: K=3 Month Holding Period						
	D1	D2	D3	D4	D5	D1-D5
C1	1.35 (4.48)	1.20 (4.12)	1.25 (4.38)	1.24 (4.25)	1.13 (3.51)	0.22 (1.11)
C2	1.33 (4.51)	1.21 (4.09)	1.16 (3.78)	1.25 (3.90)	1.11 (3.25)	0.21 (1.14)
C3	1.20 (3.95)	1.12 (3.62)	1.19 (3.81)	1.18 (3.58)	0.96 (2.66)	0.23 (1.18)
C4	1.13 (3.14)	1.00 (2.79)	0.98 (2.60)	0.76 (2.06)	0.69 (1.68)	0.44 (1.96)
C5	0.74 (1.77)	0.40 (0.90)	0.30 (0.64)	0.10 (0.22)	-0.06 (-0.13)	0.80 (2.81)
C1-C5	0.61 (1.99)	0.80 (2.55)	0.95 (2.96)	1.14 (3.75)	1.20 (3.96)	

Table 3(continued)

PANEL B: Risk-Adjusted Excess Returns

B1: K=1 Month Holding Period

	D1	D2	D3	D4	D5	D1-D5
C1	0.23 (1.48)	0.06 (0.49)	0.15 (1.23)	0.11 (0.97)	0.17 (1.26)	0.07 (0.35)
C2	0.12 (0.83)	-0.01 (-0.12)	0.04 (0.26)	0.07 (0.56)	0.05 (0.37)	0.07 (0.38)
C3	-0.02 (-0.15)	-0.10 (-0.69)	-0.08 (-0.55)	-0.08 (-0.60)	-0.27 (-1.79)	0.25 (1.27)
C4	-0.14 (-0.77)	-0.22 (-1.33)	-0.36 (-2.29)	-0.44 (-2.61)	-0.69 (-4.32)	0.55 (2.55)
C5	-0.55 (-2.56)	-0.73 (-3.57)	-1.08 (-5.54)	-1.13 (-6.40)	-1.29 (-6.20)	0.74 (2.52)
C1-C5	0.78 (3.64)	0.79 (3.68)	1.23 (5.56)	1.24 (5.76)	1.45 (5.92)	

B2: K=3 Month Holding Period

	D1	D2	D3	D4	D5	D1-D5
C1	0.22 (1.45)	0.07 (0.58)	0.14 (1.18)	0.11 (1.07)	0.06 (0.54)	0.15 (0.90)
C2	0.14 (1.00)	0.03 (0.22)	-0.01 (-0.10)	0.06 (0.48)	-0.04 (-0.34)	0.18 (1.06)
C3	-0.03 (-0.21)	-0.10 (-0.87)	0.01 (0.05)	-0.12 (-0.97)	-0.24 (-1.62)	0.21 (1.11)
C4	-0.18 (-0.99)	-0.28 (-1.91)	-0.28 (-1.98)	-0.53 (-3.85)	-0.59 (-3.77)	0.41 (1.94)
C5	-0.59 (-2.86)	-0.78 (-4.14)	-0.98 (-5.63)	-1.07 (-6.67)	-1.27 (-6.25)	0.68 (2.42)
C1-C5	0.80 (4.10)	0.85 (4.33)	1.12 (5.89)	1.19 (6.11)	1.33 (5.84)	

Table 4
Unconditional Dispersion Strategy Returns over Different Rating Subsamples
PANEL A: Dispersion Portfolios Based on Remaining Observations

Stock Sample	Dispersion Profits	Percent of Total Market Cap	Number of Firms	Percentage of Firms
All firms	0.76 (3.35)	100.00	1154.00	100.00
AAA-D	0.76 (3.35)	100.00	1153.91	99.99
AAA-C	0.75 (3.33)	99.99	1153.52	99.96
AAA-CC	0.75 (3.33)	99.99	1153.52	99.96
AAA-CCC-	0.76 (3.35)	99.98	1153.19	99.93
AAA-CCC	0.76 (3.34)	99.98	1152.91	99.91
AAA-CCC+	0.73 (3.25)	99.97	1151.61	99.79
AAA-B-	0.71 (3.18)	99.93	1148.21	99.50
AAA-B	0.68 (3.07)	99.70	1135.56	98.40
AAA-B+	0.61 (2.81)	99.20	1109.11	96.11
AAA-BB-	0.53 (2.57)	98.30	1023.83	88.72
AAA-BB	0.40 (1.98)	97.05	931.90	80.75
AAA-BB+	0.32 (1.58)	95.58	852.36	73.86
AAA-BBB-	0.26 (1.35)	93.73	784.52	67.98
AAA-BBB	0.22 (1.13)	90.07	687.38	59.56
AAA-BBB+	0.18 (0.92)	84.03	560.71	48.59

Table 5
Determinants of the Dispersion Effect

PANEL A: Regressions of Returns on Lagged Characteristics

	1	2	3	4	5	6	7	8	9	10	11	12
$Log(D_{t-1})$	-0.14 (-2.07)		-0.05 (-0.84)	-0.14 (-2.41)	-0.13 (-1.98)	-0.03 (-0.41)	-0.13 (-1.97)	-0.14 (-2.01)	-0.09 (-1.95)	-0.03 (-0.44)	-0.13 (-1.96)	-0.04 (-0.76)
CR_{t-1}		-0.11 (-3.74)	-0.09 (-3.28)			-0.11 (-3.43)				-0.05 (-2.08)		-0.07 (-2.47)
$Size_{t-1}$				0.00 (0.14)								-0.00 (-1.30)
BM_{t-1}				0.30 (2.11)								0.41 (2.58)
$r_{(t-6:t-1)}$				0.80 (2.06)								0.64 (1.71)
$Leverage_{t-1}$					-0.01 (-0.57)	-0.00 (-0.15)						0.04 (1.24)
$Log(D_{t-1}) * Leverage_{t-1}$					-0.01 (-1.14)	-0.00 (-0.40)						0.01 (0.89)
$Illiquidity_{t-1}$							-0.02 (-2.88)	-0.00 (-0.14)				-0.04 (-0.60)
$Log(D_{t-1}) * Illiquidity_{t-1}$								0.01 (0.86)				0.00 (0.18)
$Idiosyncratic Volatility_{t-1}$									-18.47 (-4.15)	-27.16 (-5.84)		-26.37 (-5.37)
$Institutional Ownership_{t-1}$											0.29 (1.15)	0.12 (0.39)

Table 5(continued)

**PANEL B: Dispersion Profitability in Firms with and without Leverage
(Including All Firms: rated and unrated)**

Firms	All	With Data on Debt	Zero Debt	Positive Debt
Ave Number of Firms/Month	2,948	2,455	208	2,247
Dispersion profits (D1-D5)	0.79 (5.16)	0.76 (4.74)	0.74 (4.06)	0.75 (4.45)

PANEL C: Returns by Sequentially Sorted Rating and D^* Groups

	D^* Quintile (D^*1 =Lowest, D^*5 =Highest Adjusted-Dispersion)					D^*1-D^*5
	D^*1	D^*2	D^*3	D^*4	D^*5	
C1	1.33 (4.48)	1.35 (4.39)	1.24 (4.29)	1.27 (4.21)	1.35 (4.39)	-0.02 (-0.14)
C2	1.30 (4.41)	1.13 (3.64)	1.30 (4.22)	1.30 (4.24)	1.29 (3.70)	0.02 (0.09)
C3	1.24 (3.85)	1.21 (3.80)	1.13 (3.70)	1.19 (3.67)	0.98 (2.73)	0.15 (0.96)
C4	0.97 (2.45)	1.14 (3.11)	0.99 (2.78)	1.05 (2.88)	0.62 (1.51)	0.25 (1.19)
C5	0.38 (0.83)	0.57 (1.29)	0.36 (0.79)	0.25 (0.54)	-0.07 (-0.15)	0.35 (1.35)
C1-C5	0.95 (2.70)	0.78 (2.64)	0.88 (2.78)	1.02 (3.32)	1.22 (4.19)	

Table 6
Dispersion Strategy Payoffs Based on Characteristic Adjusted Returns

PANEL A: Credit-Rating-Adjusted Returns

	D1	D2	D3	D4	D5	D1-D5
C1	0.14 (1.24)	-0.06 (-0.64)	0.00 (0.00)	0.06 (0.71)	-0.05 (-0.56)	0.20 (1.07)
C2	0.15 (1.49)	-0.04 (-0.46)	-0.02 (-0.28)	0.06 (0.75)	-0.01 (-0.05)	0.16 (0.87)
C3	0.12 (1.14)	0.00 (0.03)	0.07 (0.74)	0.07 (0.79)	0.01 (0.10)	0.11 (0.63)
C4	0.02 (1.45)	0.27 (2.34)	0.03 (0.30)	0.09 (0.82)	-0.05 (-0.37)	0.07 (0.83)
C5	0.30 (1.76)	0.10 (1.38)	-0.00 (-0.25)	-0.32 (-0.15)	0.03 (0.90)	0.27 (0.96)
All Rated	0.27 (2.99)	0.03 (0.56)	0.16 (2.69)	0.17 (2.42)	0.15 (1.52)	0.12 (0.73)

PANEL B: Size-Adjusted Returns

	D1	D2	D3	D4	D5	D1-D5
C1	0.31 (2.09)	0.35 (2.57)	0.17 (1.31)	0.38 (3.16)	0.20 (1.43)	0.11 (0.56)
C2	0.25 (1.85)	0.10 (0.81)	0.14 (1.28)	0.27 (2.09)	0.27 (1.76)	-0.02 (-0.10)
C3	0.14 (1.15)	0.23 (1.75)	0.07 (0.58)	0.09 (0.69)	-0.07 (-0.45)	0.21 (0.97)
C4	0.25 (1.73)	0.07 (0.49)	-0.16 (-1.17)	-0.29 (-2.17)	-0.42 (-2.43)	0.67 (2.85)
C5	-0.20 (-1.11)	-0.45 (-2.39)	-0.64 (-2.76)	-0.88 (-4.10)	-1.02 (-3.95)	0.83 (2.71)
All Rated	0.23 (2.45)	0.09 (1.18)	0.01 (0.14)	-0.12 (-1.52)	-0.46 (-3.49)	0.69 (3.39)

Table 6(continued)

PANEL C: Turnover-Adjusted Returns

	D1	D2	D3	D4	D5	D1-D5
C1	0.45 (2.42)	0.28 (1.78)	0.29 (1.97)	0.38 (2.74)	0.29 (2.09)	0.17 (0.89)
C2	0.43 (2.81)	0.28 (2.12)	0.24 (2.02)	0.41 (3.50)	0.27 (2.00)	0.16 (0.82)
C3	0.38 (2.81)	0.27 (2.28)	0.25 (2.26)	0.32 (2.74)	0.16 (1.14)	0.22 (1.10)
C4	0.42 (3.12)	0.36 (2.92)	0.15 (1.16)	0.03 (0.20)	-0.09 (-0.55)	0.51 (2.21)
C5	0.16 (0.92)	-0.20 (-1.18)	-0.53 (- 3.03)	-0.58 (- 3.30)	-0.75 (- 3.23)	0.92 (3.15)
All Rated	0.44 (3.69)	0.21 (2.39)	0.21 (2.89)	0.07 (0.94)	-0.30 (- 2.52)	0.74 (3.50)

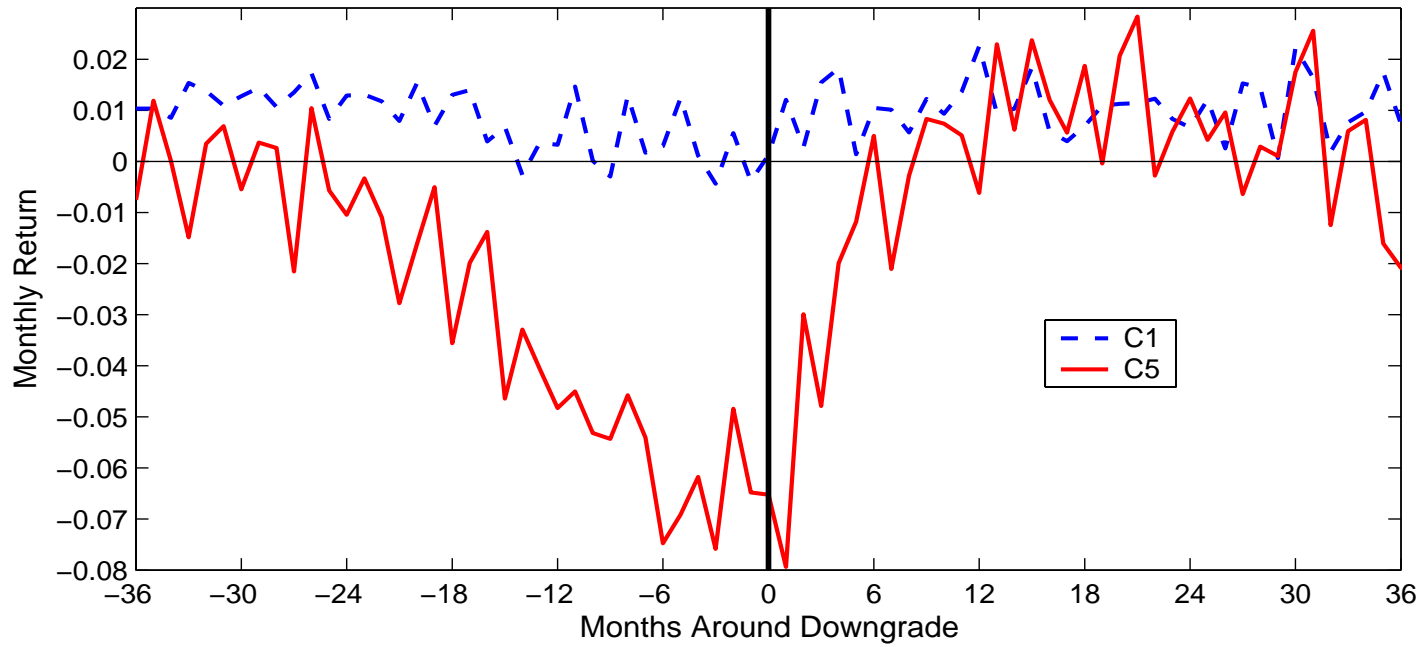
PANEL D: Institutional-Ownership-Adjusted Returns

	D1	D2	D3	D4	D5	D1-D5
C1	0.29 (1.43)	0.21 (1.20)	0.17 (1.09)	0.32 (2.21)	0.39 (2.82)	-0.11 (-0.55)
C2	0.31 (1.87)	0.19 (1.35)	0.11 (0.86)	0.37 (3.03)	0.30 (2.15)	0.01 (0.06)
C3	0.16 (1.13)	0.21 (1.76)	0.08 (0.79)	0.30 (2.36)	0.06 (0.43)	0.10 (0.47)
C4	0.18 (1.36)	0.13 (1.02)	-0.19 (-1.56)	-0.12 (-0.89)	-0.32 (-1.92)	0.50 (2.15)
C5	-0.20 (-1.05)	-0.62 (- 2.85)	-0.63 (- 2.67)	-0.77 (- 3.25)	-1.09 (- 4.24)	0.90 (2.95)
All Rated	0.26 (2.18)	0.04 (0.50)	0.07 (1.04)	-0.02 (-0.30)	-0.37 (- 2.84)	0.63 (2.75)

Table 7
Analysis Overall and Around Downgrades

	All Firms					Firms with Downgrades									
	C1	C2	C3	C4	C5	Overall					3 Months Around Downgrade				
Rating Quintile	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
Month-Return Obs.															
Overall	41,426	53,082	52,980	55,231	52,315	30,799	38,549	37,273	35,004	31,303	2,965	4,013	4,010	4,204	3,485
Expansions	38,412	48,670	49,873	50,573	48,863	28,636	35,445	35,071	32,059	29,322	2,687	3,468	3,641	3,729	3,172
Recessions	3,014	4,412	3,107	4,658	3,452	2,163	3,104	2,202	2,945	1,981	278	545	369	475	313
Number of Downgrades															
Overall						619	730	669	698	712					
Expansions						566	623	612	626	628					
Recessions						53	107	57	72	84					
Size of Downgrades															
Overall						1.53	1.60	1.69	1.65	2.37					
Expansions						1.54	1.61	1.66	1.65	2.32					
Recessions						1.47	1.44	2.16	1.62	2.94					
Return	1.27	1.15	1.07	0.65	0.04	1.18	1.03	0.90	0.25	-0.41	0.46	-0.22	-1.92	-5.32	-9.76
Dispersion	5.59	8.32	12.97	19.89	27.38	6.04	9.09	14.35	23.09	32.17	11.69	20.28	27.34	40.73	47.54
Revision	-0.68	-1.25	-2.14	-3.33	-4.00	-0.83	-1.47	-2.60	-4.15	-4.82	-3.01	-4.89	-7.95	-10.71	-9.05
Earning Surprise	-4.78	-8.60	-13.57	-17.13	-20.70	-5.95	-9.30	-13.31	-21.37	-22.56	-12.07	-23.22	-37.85	-40.36	-33.56
Analyst Coverage	17.56	13.74	11.39	8.33	6.71	17.40	14.51	12.01	8.79	6.80	16.20	13.94	11.42	8.27	6.09
Institutional Holdings	46.21	47.58	48.52	44.81	37.09	46.43	48.98	49.90	45.75	35.32	45.29	48.27	46.39	39.58	27.02
Leverage	22.24	27.42	33.06	40.08	43.96	23.29	28.28	34.14	42.89	47.73	29.94	34.12	43.27	54.62	59.86
Turnover	6.11	6.81	7.84	10.16	12.05	6.09	6.92	8.05	10.27	11.70	7.63	8.78	9.90	12.49	13.72
Size (\$ billions)	6.66	3.60	2.12	0.97	0.60	6.71	3.92	2.35	1.06	0.59	5.33	2.96	1.55	0.57	0.34
Volatility	0.69	0.79	0.97	1.64	2.35	0.69	0.79	1.00	1.70	2.46	0.91	1.19	1.74	2.97	4.37

Returns around Rating Downgrades



Dispersion around Rating Downgrades

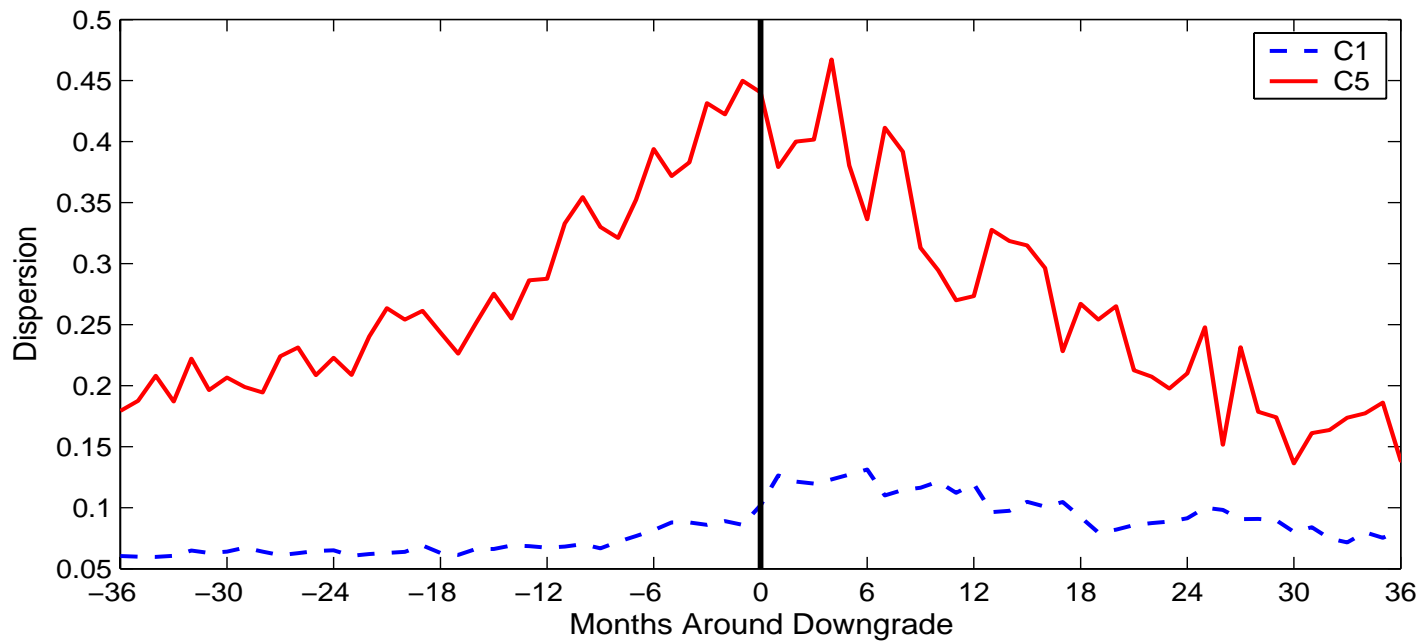


Table 8

Dispersion Strategy Payoffs Excluding 3 months Around Downgrades (months $t - 3 : t + 3$)

PANEL A: Cross-Sectional Regressions of Returns on Dispersion and a Downgrade Dummy

	$Log(D_{t-1})$	$dummy_{t-3:t+3}$	CR_{t-1}
1	-0.14 (-2.07)		
2	-0.09 (-1.37)	-1.47 (-11.49)	
3	0.03 (0.56)	-1.50 (-11.59)	-0.10 (-3.59)

PANEL B: Returns By Sequentially Sorted Credit Rating (C1-C5) and Dispersion Groups (D1-D5)

	D1	D2	D3	D4	D5	D1-D5
C1	1.46 (4.81)	1.29 (4.34)	1.34 (4.67)	1.36 (4.60)	1.40 (4.39)	0.06 (0.29)
C2	1.41 (4.68)	1.25 (4.22)	1.40 (4.56)	1.39 (4.46)	1.36 (3.96)	0.05 (0.24)
C3	1.31 (4.32)	1.26 (4.03)	1.30 (4.05)	1.42 (4.35)	1.23 (3.64)	0.08 (0.41)
C4	1.32 (3.67)	1.17 (3.20)	1.17 (3.11)	1.13 (3.05)	1.14 (2.87)	0.18 (0.79)
C5	0.86 (2.06)	0.56 (1.29)	0.48 (0.98)	0.58 (1.26)	0.50 (1.03)	0.36 (1.17)
All Rated	1.36 (4.56)	1.15 (3.75)	1.27 (3.95)	1.08 (3.12)	0.96 (2.46)	0.40 (1.34)

Figure 1

Wealth Process of Dispersion Strategy

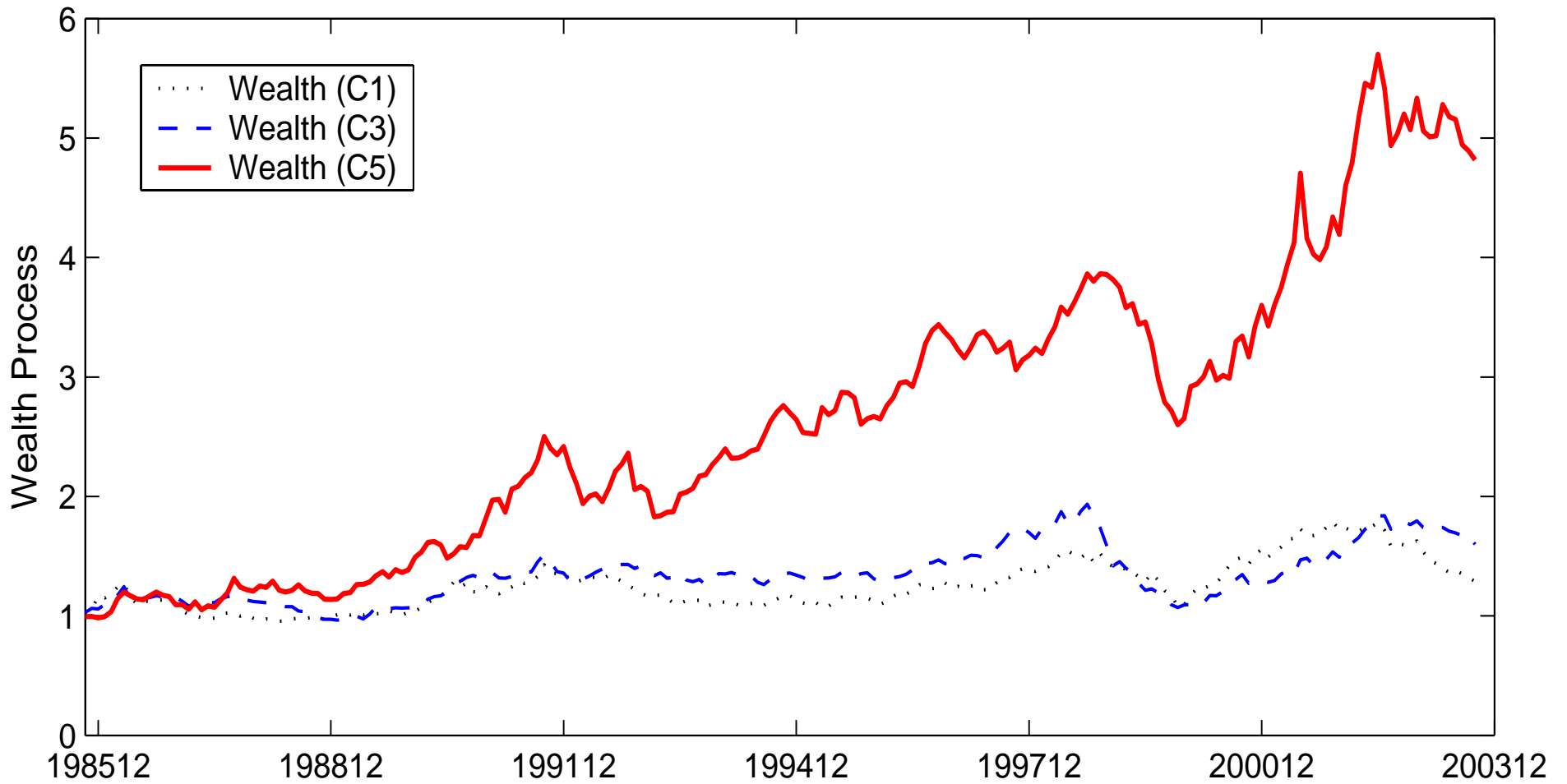


Figure 2

Wealth Process of Dispersion Strategy in Non-Downgrade Periods

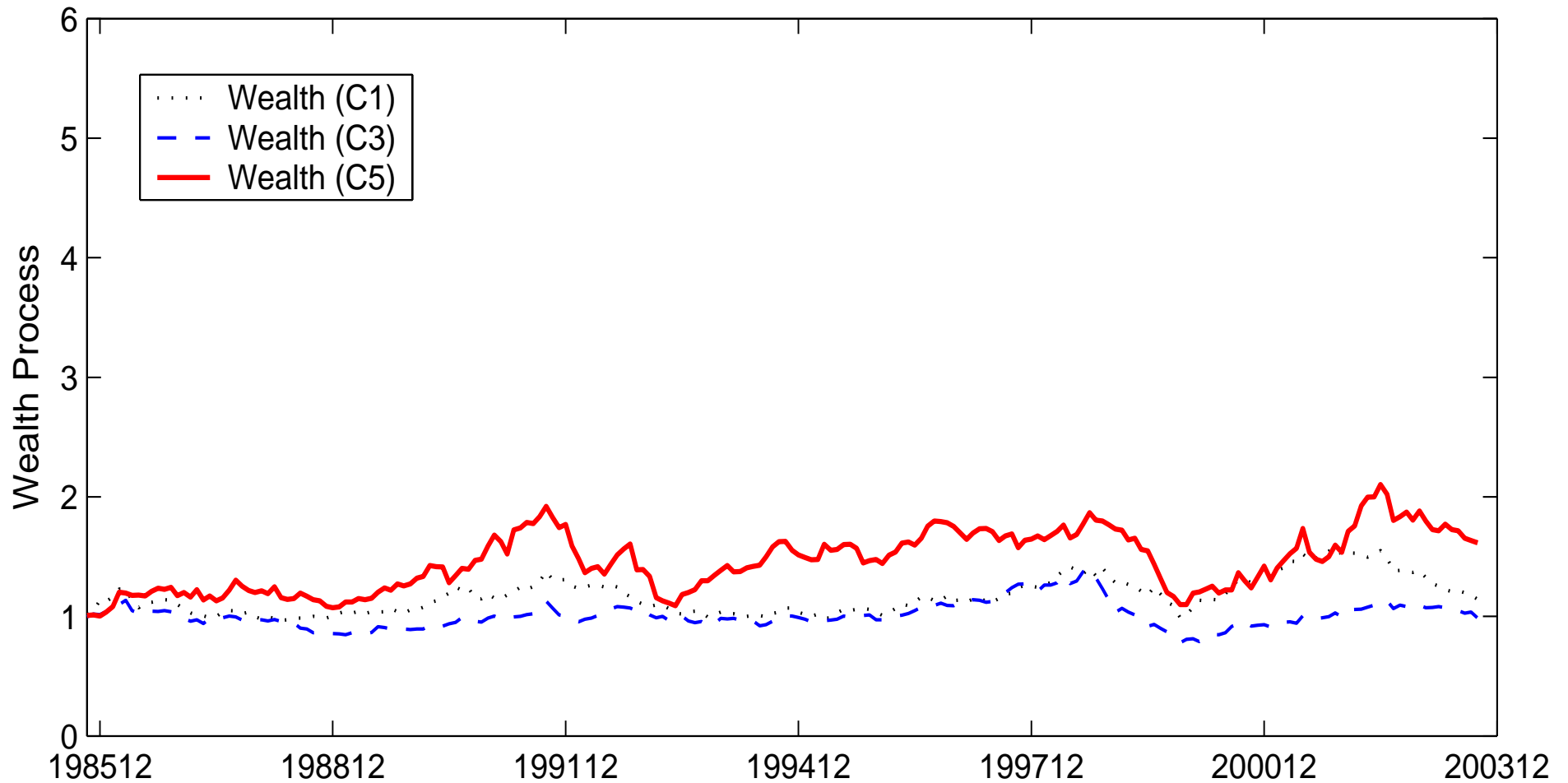


Table 9**Dispersion Strategy Payoffs over Diminishing Subsamples Based on Cumulative Past Returns**

Stock Sample	Dispersion Profits	Percent of Total Market Cap	Number of Firms	Percentage of Firms
All Firms	0.76 (3.35)	100.00	1,154.00	100.00
Top 96 %	0.50 (2.28)	100.00	1,127.70	97.72
Top 92 %	0.48 (2.21)	99.05	1,080.73	93.65
Top 88 %	0.44 (2.11)	96.20	1,033.83	89.59
Top 84 %	0.43 (2.06)	93.19	986.83	85.51
Top 80 %	0.45 (2.16)	89.66	939.88	81.45
Top 76 %	0.43 (2.09)	86.01	892.96	77.38
Top 72 %	0.46 (2.17)	82.19	845.97	73.31
Top 68 %	0.47 (2.23)	78.21	799.03	69.24
Top 64 %	0.46 (2.18)	73.87	752.13	65.18
Top 60 %	0.42 (1.98)	69.51	705.11	61.10
Top 56 %	0.45 (2.07)	65.25	658.19	57.04
Top 52 %	0.46 (2.10)	60.89	611.19	52.96
Top 48 %	0.45 (2.03)	55.98	564.31	48.90
Top 44 %	0.42 (1.85)	51.40	517.31	44.83

Conclusion

- We document a strong link between credit risk and the profitability of dispersion based strategies.
 - The dispersion effect is driven exclusively by the worst-rated firms - 5% of market cap.
 - Even for these worst-rated stocks, the dispersion-return relation disappears when either dispersion or return is adjusted by credit risk.
 - Previous explanations for the dispersion effect (*short-sale constraints, leverage, illiquidity*) do not capture the effect of credit risk on dispersion profitability, at least in our sample of rated firms.
- Financial distress drives the dispersion effect.
 - The dispersion-return relation is only significant around credit rating downgrades, which are only 8% of all observations.
 - In such periods, prices of low-rated stocks declines substantially and uncertainty about firm fundamentals (*forecast dispersion, forecast revisions, and earning surprises*) rises considerably.
 - In the remaining 92% of the sample, the dispersion-return relation is non-existent.

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