



SEC Working Papers Forum ครั้งที่ 2

On The Informativeness of Credit Watch Placements

Chiraphol Chiyachantana
Eakapat Manitkajornkit
Nareerat Taechapiroontong

Securities and Exchange Commission Thailand
August 2014

Credit Rating Agency

- **Provide objective, consistent and simple measures of creditworthiness**
- **Improve the flow of information between institutional borrowers (issuers) and lenders (investors)**
- **Reduce investors' costs of gathering, analyzing, and monitoring the financial positions of borrowers**

Important Credit Monitoring Role in the financial markets



*Initial
Bond Issue*

Findings:

Bond Downgrade:

Conveys new information

Bond Upgrade:

No significant price reaction [with exception of Jorion, Liu and Shi (2005) after Reg FD]

Bond Rating Revision

Katz (JF, 1974)

Grier and Katz (JB, 1976)

Hettenhouse and Sartoris (QJE, 1976)

Pinches and Singleton (JF, 1978)

Griffin and Sanvicente (QJE, 1982)

Holthausen and Leftwich (JFE, 1986)

Glascocock, Davidson and Henderson (JFE, 1987)

Hand, Holthausen and Leftwich (JF, 1992)

Goh and Ederington (JF, 1993, JFQA, 1998)

Hite and Warga (FAJ, 1997)

Dichev and Piotroski (JF, 2001)

Jorion, Liu and Shi (JFE, 2005)

Beaver, Shakespeare and Soliman (JAE, 2006)

Research Motivation

- On August 24, 2005, following two quarters of losses at North American auto operations, Moody's downgraded Ford Motor Company's senior unsecured credit rating from **Baa3** (investment grade) to **Ba1** (speculative grade).

LEADING BOND RATING SERVICES Explanation of corporate/ municipal bond ratings	RATING SERVICE		
	<i>Fitch</i>	<i>Moody's</i>	<i>Standard & Poor's</i>
Highest quality, "gilt edged" High quality Upper medium grade	AAA AA A	Aaa Aa A	AAA AA A
Medium grade Predominantly speculative Speculative, low grade	BBB BB B	Baa Ba B	BBB BB B
Poor to default Highest speculation Lowest quality, no interest	CCC CC C	Caa Ca C	CCC CC C
In default, in arrears, questionable value	{ DDD DD D		DDD DD D



Research Motivation

Ford Motor Company (NYSE:F)

Add to portfolio

17.31 0.00 (0.00%)

Pre-market: 17.37 +0.06 (0.35%)

Aug 18, 8:56AM EDT

NYSE real-time data - Disclaimer
Currency in USD

Range 14.40 - 18.12
52 week Open -
Vol / Avg 44,280.00/27,24M
Mkt cap 67.14B
P/E 10.64

Dividend 0.12/2.69
EPS 1.63
Shares 3.93B
Beta 1.46
Inst. own 66%

8+1 509



- Such a downgrade is widely regarded as a significant credit rating event, and yet Ford's share price experienced no significant identifiable change on that day.

Research Motivation Missing Puzzle

Credit Watch Placement



- Beginning in 1991, Moody's initiated an interesting practice as part of formal bond rating process
- Prior to an actual rating revision, it began putting a credit issue on a "Watchlist" to offer indications of the likely direction of near-term future credit rating changes but not all rating revisions are preceded by Credit Watch
- Positive Watch / Negative Watch / Uncertain
- Objective: Reduce the company's stock price volatility by moving its credit ratings in a gradual, even predictable, fashion

Research Motivation

Missing Puzzle

- However, on June 22, 2005, two months prior to the rating downgrade, Moody's placed Ford on negative watch for possible downgrade. That event sparked a sell-off in Ford's shares that resulted in price plunged of more than 5% on that day.
- Consequently, with the typical bond rating change, investors following a firm cannot fully understand the overall impact of bond rating revision without considering prior credit watch placement.

Research Objectives

- *Investigate* the role of Credit Watch Placement in Bond Rating Process
 - Establish a link between credit watch placement and prior research on bond rating change
 - Focus on Bond Downgrade
 - CRAs expend more resources in detecting a deterioration in credit quality rather than reporting just on the improvements in credit quality.

Empirical Investigation

■ Level I

- We emphasize on the informativeness of credit watch placement and how credit watch placement reduce market reaction of the actual rating change
- How market participants react to Credit Watch Placement?
 - H1: Credit watch placement is informative
 - H2: Cumulative abnormal returns of rating change with prior credit watch is less than CARs of rating change without prior watch

Empirical Investigation

■ Level II

- Does the credit watch placement help the price adjustment following rating announcement to be more complete?
- We examine how credit watch placement affects investor underreaction following bond downgrades
- Long Term abnormal returns
 - BHAR and CAR controlled for Size and Book-to-Market, RATs, Underreaction Coefficient
 - H3: Long run abnormal returns of rating change with prior credit watch are smaller than that of rating change without prior watch

Empirical Investigation

■ Level III

- We examine when and why credit watch placements have the most significant impact on stock prices during the bond downgrade and post-event periods
- We conjecture that the informativeness of credit watch placement varies across firms depending on the degree of firm's information uncertainty (IU)
 - H4: Market reaction and long run returns for high IU firms are larger than that of low IU firms
 - H5: In high IU firms, credit watch placement helps reducing market reaction and long run returns

Data and Sample Selection

- **Moody's Default Risk Service Database: Credit Watch and Bond Rating Changes**
 - Beginning date and the ending date of a credit watch placement, as well as its subsequent rating change
 - Credit Watch Indications: “positive” (possible upgrade), “negative” (possible downgrade) or “developing” (uncertain direction)
 - Bond Rating Revision: Upgrade and Downgrade
 - Credit Watch Resolution: Linked Sample
 - We confine our sample to US domestic taxable corporate bonds, excluding bonds issued via private placement and Yankee bonds
- Sample Period: January 1, 1997 to December 31, 2005
- **CRSP:** Stock Prices: Stock returns, value weighted index returns, volume and shares outstanding

How frequent does CRAs issue Credit Watch?

Table 1: Descriptive Statistics

This table presents the number of linked and surprise credit rating changes by calendar year. Linked credit rating change is credit rating change with prior credit watch placement. Surprise credit rating change is credit rating change without prior credit watch placement. Data on Moody's credit rating are obtained from Moody's Corporate Default Risk Service database. The analysis covers time period from October 1992 to December 2005.

<u>Year</u>	<u>Number of Linked Downgrade</u>	<u>Number of Surprise Downgrade</u>	<u>Total Downgrade</u>	<u>% Linked Downgrade</u>
1992	10	13	23	43
1993	35	28	63	56
1994	33	33	66	50
1995	33	47	80	41
1996	43	43	86	50
1997	34	55	89	38
1998	40	71	111	36
1999	54	64	118	46
2000	67	72	139	48
2001	88	110	198	44
2002	121	66	187	65
2003	85	46	131	65
2004	44	41	85	52
2005	42	46	88	48
Total	729	735	1464	50

Informativeness of Credit Watch Placement

Negative Watch and Bond Downgrade

	Obs. (<i>n</i>)	Credit Watch CAR (%)	Rating Change CAR (%)
All Downgrade	1,460		-2.30%*** (-7.13)
Linked Downgrade	729	-3.34%*** (-6.83)	-1.35%*** (-2.98)
Surprise Downgrade	731		-3.24%*** (-7.11)
Difference: Surprise – Linked			-1.89%*** (-2.95)

- H1: Credit watch placement is informative
- H2: Cumulative abnormal returns of rating change with prior credit watch is less than CARs of rating change without prior watch

- Compare abnormal returns RC vs. CW
- Surprised vs. Anticipated downgrade

How credit watch placement affects investor underreaction following bond downgrades?

- Long-Run CARs and BHARs Controlled for Size and Book-to-Market
- Form 25 (5 X 5) value-weighted portfolios of all NYSE, AMEX, and Nasdaq stocks based on their size and book-to-market
- Divide the monthly cross sections into size quintiles, and within each size quintile, I form five book-to-market portfolios
- Assign all firms into one of the 25 (5 X 5) portfolios and calculate value weighted returns

How credit watch placement affects investor underreaction following bond downgrades?

- IRATS with Fama and French Three-Factors Plus Momentum Factors
- Run the regression for every month j relative to the event month 0 ($j = 1, \dots, 12$).

$$(R_{i,t} - R_{f,t}) = a_j + b_j (R_{m,t} - R_{f,t}) + c_j \text{SMB}_t + d_j \text{HML}_t + e_j \text{MOM}_t + \varepsilon_{i,t}$$

- The abnormal returns reported are sums of the intercepts of cross-sectional regression over the relevant event-time periods

How credit watch placement affects investor underreaction following bond downgrades?

- Underreaction Coefficients (Loh (2009))
- The ratio of the rating event date reaction to the total return implication of the rating changes
- Suppose a credit rating change produced a CAR of 6% for the period $[-1, 240]$ and the event reaction over $[-1, 1]$ is 3% then the underreaction coefficient (UC) is $3/6 = 0.5$
- $UC < 1$ = underreaction and the lower coefficient value represents more severe underreaction

Does the credit watch placement help the price adjustment following rating announcement to be more complete?

- H3: Long run abnormal returns of rating change with prior credit watch are smaller than that of rating change without prior watch

	12-Month Abnormal Returns						URC (%)
	CAR		BHAR		RATS		
Total Downgrade	-6.85%	***	-6.43%	***	-5.95	***	45.4
	(-3.96)		(-3.95)		(-3.03)		
Linked Downgrade	-2.42%		-2.88%		-1.09		66
	(-1.17)		(-1.39)		(-0.45)		
Surprise Downgrade	-11.26%	***	-9.99%	***	-9.75	***	22.2
	(-4.08)		(-3.98)		(-3.13)		
Difference: Surprise – Linked	-8.84%	***	-7.11%	**	-8.66	**	
	(-2.56)		(-2.19)		(-2.20)		

- Long term abnormal returns after Downgrade

When and Why credit watch placements have the most significant impact on stock prices ?

- Information Uncertainty
 - We conjecture that the informativeness of credit watch placement varies across firms depending on the degree of firm's information uncertainty (IU).
 - If credit watch placement helps resolve uncertainty about future rating revision, then the effects should be most pronounced in the firms whose information is difficult to acquire by investors.

Proxies for Information Uncertainty

- **We adopt four widely used IU measures as proxies for information availability: idiosyncratic volatility (IVOL), firm size (SIZE), firm age (AGE), and analyst dispersion (DISP).**
 - Firm age (AGE) - the number of months since the first return appears in CRSP
 - Firm size (SIZE) - market capitalization at the bond rating change date
 - Idiosyncratic volatility (IVOL) - average monthly idiosyncratic risk during the prior quarter before portfolio formation
 - Analyst dispersion (DISP) - the standard deviation of analyst forecasts

When and Why credits watch placements have the most significant impact on stock prices

- High Information Uncertainty
 - High idiosyncratic volatility (IVOL)
 - Small Firm size (SIZE),
 - Young Firm age (AGE)
 - More Analyst dispersion (DISP)

Does the credit watch placement help the price adjustment following rating announcement to be more complete?

- H4: Market reaction and long run returns for high IU firms are larger than that of low IU firms

	12-Month Abnormal Returns						URC (%)
	CAR		BHAR		RATS		
Total Downgrade	-6.85%	***	-6.43%	***	-5.95	***	45.4
	(-3.96)		(-3.95)		(-3.03)		
Linked Downgrade	-2.42%		-2.88%		-1.09		66
	(-1.17)		(-1.39)		(-0.45)		
Surprise Downgrade	-11.26%	***	-9.99%	***	-9.75	***	22.2
	(-4.08)		(-3.98)		(-3.13)		
Difference: Surprise – Linked	-8.84%	***	-7.11%	**	-8.66	**	
	(-2.56)		(-2.19)		(-2.20)		

- Long term abnormal returns after Downgrade Linked vs Surprised

When and Why credits watch placements have the most significant impact on stock prices ?

- H5: In high IU firms, credit watch placement helps reducing market reaction

Post-Downgrade 12 Month Cumulative Abnormal Returns Sorted by Information Uncertainty

				IVOL			SIZE			AGE			DISP		
				AR	t		AR	t		AR	t		AR	t	
Linked Downgrade	CAR	High		-9.77%	(-1.78)	*	-12.97%	(-2.59)	***	-10.16%	(-2.29)	**	-4.69%	(-1.18)	
		Low		1.24%	(0.74)		3.49%	(1.48)		4.68%	(1.59)		1.16%	(0.38)	
		H-L		-11.01%	(-1.92)	*	-16.46%	(-2.97)	***	-14.84%	(-2.79)	***	-5.85%	(-1.17)	
	BHAR	High		-8.33%	(-1.58)		-12.35%	(-2.57)	***	-11.91%	(-2.78)	***	-7.56%	(-2.04)	**
		Low		0.37%	(0.19)		2.56%	(1.04)		4.51%	(1.46)		0.64%	(0.20)	
		H-L		-8.70%	(-1.55)		-14.91%	(-2.76)	***	-16.42%	(-3.11)	***	-8.20%	(-1.68)	*
Surprise Downgrade	CAR	High		-22.69%	(-3.48)	***	-28.85%	(-5.01)	***	-23.79%	(-4.16)	***	-19.68%	(-3.23)	***
		Low		1.45%	(0.72)		0.74%	(0.33)		0.30%	(0.08)		-2.06%	(-0.67)	
		H-L		-24.14%	(-3.53)	***	-29.59%	(-4.80)	***	-24.09%	(-3.52)	***	-17.62%	(-2.58)	***
	BHAR	High		-23.13%	(-4.03)	***	-31.37%	(-6.34)	***	-21.83%	(-4.62)	***	-19.34%	(-3.77)	***
		Low		0.09%	(0.04)		0.56%	(0.29)		-1.42%	(-0.39)		-2.65%	(-0.83)	
		H-L		-23.22%	(-3.80)	***	-31.93%	(-6.04)	***	-20.41%	(-3.41)	***	-16.69%	(-2.76)	***

- CW is important only in High Information Uncertainty Firm
- Consistent results for all information uncertainty proxies

Takeaway

- Credit Watch is used extensively by a CRA as a signal of a future rating revision and Credit Watch is in itself informative event
- Credit watch helps reduce investor underreaction following bond downgrades
- Credit watch is the most important tools in firms with high information uncertainty

Thank You
for your attention!!