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The Debt Market Relevance of Management Earnings Forecasts: Evidence from Before and During the Credit Crisis

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Research Questions

- Do Management Earnings Forecasts News provide information relevant to the debt market?
- How important are Management Forecast News relative to Actual Earnings News?
- How does the relevance of Management Forecasts and Earnings News change when information uncertainty is high?

Empirical Research Design

- We investigate the change in Credit Default Swap spreads around the announcement of management forecast news and earnings news

- We focus on a 5 day window around forecasts' release day, results are robust to alternative windows

- We run the analysis before and during the recent credit crisis (before and after July 1st, 2007)

Motivation

- Very little empirical evidence on the role of accounting information in the debt price discovery process
  - Datta and Dhilon 1993; Hotchkiss and Ronen, 2002; Callen, Livnat and Segal, 2009; Easton, Monahan, Vasvari, 2009; DeFond and Zhang, 2010.

- No evidence on the role of voluntary disclosures in the debt price discovery process – we use management forecasts

- Evidence in equity markets and differences between equity and debt markets suggest that the answer is not straightforward

Why ***not*** relevant to credit markets?

Management Forecasts:

- Do not cater to debt investors - equity markets care more about the upside while debt markets care more about the downside risks
- Might be issued strategically to influence equity values due to compensation structures (e.g., Kothari, Shu and Wysocki, 2009)
- Might signal information about potential wealth transfers (e.g., Dhillon and Johnson, 1993) that potentially offset the direct effects of news on debt prices.
- Might fail to inform exactly when they are needed most: credit market demand for information is stronger when firms are closer to default

Why relevant to credit markets?

- Firms with bad news are more likely to issue management forecasts than firms with good news (e.g., Kasznik and Lev 1995; Hutton and Stocken 2007).

- Earnings are a source of relevant information for credit markets (e.g., Callen et al, 2009; Easton et al 2009; DeFond and Zhang 2010)

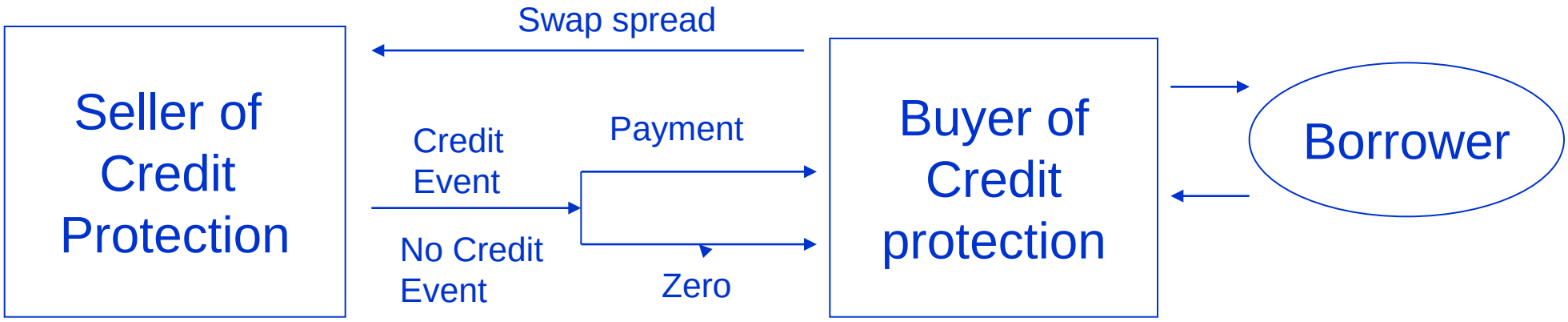
Importance relative to Earnings News

- Management forecasts are commonly bundled with earnings (e.g., Rogers and Van Bushkirk, 2009)
  - Prior evidence on credit prices do not distinguish effects of earnings news from that of management-forecast news.
- Evidence on the relative informativeness of management forecasts in equity market is mixed (Atiase et al., 2005; Ball and Shivakumar, 2008, Beyer, Cohen, Lys and Walther, 2009)
  - Debt contracts are written on reported earnings numbers
  - However, management forecasts are more flexible and forward looking

Importance when information is uncertain

- Management forecasts are likely to be more informative during periods of high information uncertainty (e.g., Lang, 1991 in equity market)
  - Credit crisis provides an exogenous shock to the information uncertainty
- Response to good and bad management news is also expected to vary with the uncertainty of the information environment (Veronesi 1999 vs. Epstein and Schneider 2008).

Credit Default Swap Spreads



Why focus on Credit Default Swap Spreads?

- They are used in the pricing of all debt securities, data is available daily
- Capture pure default risk -> not affected by contractual characteristics which are typical in debt contracts (e.g., covenants, size, option like features, etc)
- Do not capture other risks specific to debt securities such as liquidity risks, interest rate risks, supply risks and tax changes risks
- CDS market is likely more efficient than the bond or the secondary loan market - CDSs allow both short and long positions on credit quality

Sample

- Daily CDS data for five-year contracts between 2001 and 2008 from Markit Group for 710 reference entities
- We define crisis period between July 2007 and December 2008
- Management forecast, consensus analyst forecast, and earnings announcement data from First Call
- Final Sample:
  - 3,320 observations for unbundled sample
  - 6,206 observations for bundled sample

Basic Research Design

Main regression:

$$\begin{aligned}\Delta\text{CDS Spread} = {} & \beta_0 + \beta_1 \text{MF News} + \beta_2 \sigma(\text{CDS Spread}) + \beta_3 \sigma(\text{Stock Return}) \\ & + \beta_4 \text{Residual Stock Return} + \beta_5 \text{S \& P500 Return} + \beta_6 \Delta\text{Treasury} \\ & + \beta_7 \Delta\text{VIX} + \beta_8 \text{Good Rating News} + \beta_9 \text{Bad Rating News} \\ & + \text{Year fixed effects} + \varepsilon \qquad (1)\end{aligned}$$

ΔCDS = Percentage change in CDS spreads over a five-day window centered on management forecast date – Average percentage spread change of a matched portfolio of CDS contracts over the same time interval.

MF News$_{it}$ = (Management earnings forecast – Latest consensus analyst forecast) / Absolute value of latest consensus analyst forecast.

Main Results – Unbundled Sample

	Pooled	*Pre-crisis*	*Crisis*	*Pooled*	*Pre-crisis*	*Crisis*
MF News	-0.035	-0.028	-0.092^{+++}	-0.056	-0.049	-0.104^{++}
	(-3.27)	(-2.51)	(-3.71)	(-4.48)	(-3.70)	(-3.33)
σ(CDS Spread)	-0.004	0.001	-0.019	-0.010	0.001	-0.052^{++}
	(-0.53)	(0.05)	(-1.21)	(-0.99)	(0.05)	(-2.18)
σ(Stock Return)	-0.222	-0.290	0.315	-0.247	-0.681	1.299^{++}
	(-0.59)	(-0.68)	(0.33)	(-0.63)	(-1.55)	(1.25)
Residual Stock Return	-0.305	-0.379	-0.093^{+++}	-0.290	-0.375	-0.004^{+++}
	(-6.82)	(-7.65)	(-1.02)	(-5.86)	(-6.80)	(-0.04)
S&P500 Return	-0.202	-0.101	-0.449	-0.140	-0.032	-0.470^{+}
	(-1.65)	(-0.71)	(-1.75)	(-1.10)	(-0.23)	(-1.63)
ΔTreasury	-0.017	-0.012	-0.028	-0.013	-0.009	-0.026
	(-1.62)	(-1.32)	(-1.22)	(-1.14)	(-0.92)	(-1.09)
ΔVIX	0.032	0.030	0.014	0.034	0.035	-0.008
	(1.41)	(1.26)	(0.31)	(1.37)	(1.38)	(-0.15)
Good Rating News	-0.087	-0.086	-0.104	-0.074	-0.054	-0.137
	(-3.81)	(-3.16)	(-3.61)	(-4.28)	(-3.22)	(-4.81)
Bad Rating News	0.092	0.084	0.141^{++}	0.093	0.091	0.095
	(5.39)	(4.70)	(2.66)	(5.12)	(4.63)	(2.50)
Inverse Mills ratio	–	–	–	-0.006	0.003	-0.059^{+}
				(-0.33)	(0.16)	(-1.48)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.083	0.093	0.080	0.084	0.099	0.084
N	3,320	2,634	686	2,985	2,375	610

Consistent Cross-Sectional Evidence

	Indicator = Bad		Indicator = Habitual		Indicator = Preannouncement		Indicator = Speculative credit rating	
	Pre-crisis	*Crisis*	*Pre-crisis*	*Crisis*	*Pre-crisis*	*Crisis*	*Pre-crisis*	*Crisis*
Indicator	0.007	0.011	0.001	0.028	0.013	0.027	0.005	-0.005
	(1.58)	(1.22)	(0.20)	(1.82)	(2.99)	(2.34)	(1.18)	(-0.58)
MF News	0.014	-0.053^{++}	-0.031	0.047	-0.021	-0.063^{++}	0.006	0.003
	(0.81)	(-1.90)	(-1.61)	(1.12)	(-2.07)	(-2.50)	(1.39)	(0.47)
*MF News * Indicator*	-0.073	-0.031	-0.036	-0.258^{+++}	-0.049	-0.044	-0.049	-0.090^{++}
	(-3.11)	(-0.72)	(-1.07)	(-3.84)	(-2.08)	(-0.80)	(-3.00)	(-2.57)
σ(CDS Spread)	-0.002	-0.020	0.023	-0.037^{++}	0.002	-0.020	-0.002	-0.019
	(-0.23)	(-1.25)	(1.18)	(-1.59)	(0.20)	(-1.25)	(-0.23)	(-1.21)
σ(Stock Return)	-0.491	0.283	-0.845	1.236^{+}	-0.445	0.156	-0.347	0.368
	(-1.17)	(0.29)	(-1.09)	(0.82)	(-1.04)	(0.17)	(-0.81)	(0.38)
Residual Stock Return	-0.377	-0.105^{+++}	-0.502	0.007^{+++}	-0.370	-0.130^{+++}	-0.371	-0.114^{+++}
	(-7.54)	(-1.18)	(-5.83)	(0.06)	(-7.63)	(-1.54)	(-7.57)	(-1.33)
S&P500 Return	-0.117	-0.443	-0.497	-1.172^{++}	-0.117	-0.442	-0.112	-0.447
	(-0.83)	(-1.74)	(-2.26)	(-3.45)	(-0.83)	(-1.72)	(-0.79)	(-1.74)
ΔTreasury	-0.011	-0.028	-0.008	-0.027	-0.007	-0.029	-0.011	-0.026
	(-1.21)	(-1.23)	(-0.66)	(-1.02)	(-0.85)	(-1.25)	(-1.21)	(-1.16)
ΔVIX	0.026	0.015	0.029	0.032	0.028	0.007	0.027	0.014
	(1.08)	(0.33)	(0.98)	(0.54)	(1.15)	(0.15)	(1.13)	(0.30)
Good Rating News	-0.085	-0.106	-0.091	-0.122	-0.084	-0.100	-0.087	-0.102
	(-3.15)	(-3.54)	(-2.60)	(-3.74)	(-3.15)	(-3.56)	(-3.17)	(-3.71)
Bad Rating News	0.079	0.142^{++}	0.119	0.151	0.082	0.128	0.083	0.143^{++}
	(4.43)	(2.61)	(3.74)	(2.80)	(4.55)	(2.21)	(4.59)	(2.64)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.097	0.083	0.089	0.133	0.097	0.091	0.094	0.081
N	2,634	686	2,634	686	2,618	672	2,634	686

Management Forecasts vs. Earnings Bundled Sample

	Pooled	*Pre-crisis*	*Crisis*
MF News	-0.043	-0.036	-0.084^{+++}
	(-5.49)	(-4.20)	(-3.69)
EA News	-0.019	-0.016	-0.026
	(-3.57)	(-2.75)	(-1.48)
σ(CDS Spread)	-0.016	-0.017	-0.016
	(-2.67)	(-2.40)	(-1.50)
σ(Stock Return)	0.466	0.473	0.393
	(1.94)	(1.73)	(0.87)
Residual Stock Return	-0.218	-0.217	-0.223
	(-9.00)	(-7.82)	(-5.19)
S&P500 Return	-0.066	-0.081	0.006
	(-0.86)	(-0.93)	(0.05)
ΔTreasury	0.015	0.027	-0.007^{+++}
	(2.38)	(3.58)	(-0.55)
ΔVIX	0.019	0.016	0.018
	(1.23)	(0.88)	(0.63)
Good Rating News	-0.048	-0.046	-0.043
	(-2.67)	(-2.51)	(-0.74)
Bad Rating News	0.082	0.093	0.043^{++}
	(6.22)	(6.26)	(1.72)
Year fixed effects	Yes	Yes	Yes
p-value (*MF News* = *EA News*)	0.005	0.027	0.009
R^2	0.059	0.066	0.047
N	6,206	4,677	1,529

Management Forecasts vs. Earnings Unbundled Sample

	Pooled	*Pre-crisis*	*Crisis*
MF News	-0.097	-0.097	-0.106
	(-3.57)	(-3.28)	(-1.79)
EA News	-0.003	-0.005	0.085
	(-0.15)	(-0.20)	(0.91)
σ(CDS Return)	0.006	0.006	0.025
	(0.51)	(0.44)	(0.77)
σ(Stock Return)	-0.248	-0.293	-0.175
	(-0.32)	(-0.35)	(-0.12)
Residual Stock Return	-0.448	-0.456	-0.453
	(-4.43)	(-4.18)	(-1.65)
S&P500 Return	-0.447	-0.461	-0.084
	(-2.27)	(-2.16)	(-0.16)
ΔTreasury	0.013	0.017	-0.002
	(0.79)	(0.99)	(-0.02)
ΔVIX	0.056	0.024	0.260
	(0.99)	(0.38)	(2.25)
Year fixed effects	Yes	Yes	Yes
p-value (*MF News* = *EA News*)	0.013	0.020	0.156
R^2	0.089	0.086	0.217
N	1,001	918	83

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Conclusion

- CDS spreads react negatively to management earnings forecast news.
- This reaction is stronger during the recent credit crisis.
- Cross sectional tests that partition the sample based on bad news, quality of forecasts, credit riskiness show consistent results
- CDS spread reaction is stronger for management forecasts than reported earnings.