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# The Impact of REIT Ratings on Stock Price and Shareholder Wealth

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We have analyzed the market reaction to REIT preferred stock ratings announced by Moody's Investors Service from 1999 to 2009 that are related to four types of rating events; first time ratings, outlook changes, reviews and actual rating changes. The results suggest a significant market reaction to rating upgrades of 1.08% abnormal return, and downgrades and negative outlooks of -2.28% and -2.67% abnormal returns, respectively. Compared to the non-REIT literature, the abnormal returns are smaller in magnitude which implies a relatively smaller information asymmetry within the REIT market with diversification opportunities for global investors.

### **Keywords**

REITs; Preferred Stock Rating; Information Asymmetry; Asset Pricing; Investment Strategy

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## 1. Introduction

Credit ratings issued by major rating agencies, Moody's Investors Service (Moody's), Standard & Poor's (S&P) Rating Services, and Fitch Ratings are used worldwide in contractual agreements as independent approximation for overall risk exposure. Deterioration of such credit ratings often triggers pre-defined covenants and other regulations that require contractual amendments and additional financial contributions to adjust for the increased default risk. Furthermore, as market trading is increasingly dominated by professional investors (Stein, 2009), credit ratings as major analytical tools represent an essential share of objective market evaluation. Given the integration of credit ratings into capital market activity, the impact of changes in credit ratings is expected to be significant. The information content and impact of credit ratings have received considerable attention in the academic literature. Various studies suggest that the market reaction to rating downgrades is significantly negative, while few studies find positive market reactions to rating upgrades. Largely, the results suggest that rating agencies mitigate information asymmetry within markets. However, the previous literature does not take into consideration the transparency of different companies. While information asymmetry is likely to be larger in inefficient markets, more transparency is expected to create less inefficiency. Specifically, with increases in company transparency, market reactions to new information, such as rating announcements, should be less pronounced.

To analyze whether transparent companies have a different market reaction to rating change announcements, it is necessary to identify such companies. Real estate investment trusts (REITs) are suitable for several reasons. First, in contrast to most companies, REITs are characterized by high transparency due to their tangible asset base. Investors are able to observe the underlying and earning producing assets of their investments. Second, because of their dividend policy, REITs provide investors with accurate and consistent information about the performance of their investment. Third, the shares of many REITs are traded on major stock exchanges which allow us to compare the market reaction of new information on the share price of REITs with the findings on common stock.

In light of the recent financial crisis and noticeable economic consequences, global investors are increasingly concerned about the future of their investments. Hence, investors are seeking for appropriate informational guides to manage and assess the riskiness of their assets. Rating companies, such as Moody's, S&P, and Fitch Ratings, have traditionally played a critical role in assessing such risks for global investors. However, there have not been much reliable informational guides for global investors with regard to real estate or REITs. Thus, it is important to identify the information asymmetry and risk within the REIT market and evaluate whether rating agencies are suitable as informational guides for global investors to mitigate information

asymmetry and reduce risk exposure through elimination of uncertain factors. We examine daily excess returns of REITs related to four types of rating agency announcements; first time ratings, outlook changes, reviews and actual rating changes by Moody's. Overall, the results suggest that the market reaction to rating changes is significant to upgrades, downgrades, and negative outlooks, but not to reviews, positive outlooks or first time ratings. However, the abnormal market returns to upgrades and downgrades are less pronounced than those for traditional companies. On the one hand, this implies that REITs inherit less information asymmetry between firm and investor than traditional companies due to their high transparency. This offers diversification opportunities to the risk-averse investor, who is seeking to reduce the overall risk of a portfolio by investing in the U.S. REIT market. On the other hand, the results also suggest that rating agencies are suitable as an informational guide for global investors through mitigation of information asymmetry within the REIT market. Furthermore, analysis by investment grade shows that the abnormal returns are larger for non-investment grade REITs. These results are consistent with the non-REIT rating literature.

The remainder of the paper is organized as follows. The next section discusses the relevant literature on rating events. The REIT rating process is described in the following section. The Data section describes the data and how they are obtained. The research methodology of the current study is outlined in the Methodology section. The main results are presented in the Results section. The Conclusion section summarizes and concludes.

## **2. Literature Review**

### **2.1 Stock Price Effects**

There exists an extensive body of literature that analyzes the impact of rating agency announcements on stock and bond prices with implications for global investors. While the majority finds significant stock price reactions to downgrades, there are none for upgrades, and hence the reactions to bond prices are mixed.

An early research paper by Pinches and Singleton (1978) examines the behavior of stock prices based on rating changes. The authors have analyzed 207 firms by using monthly stock returns and find abnormally high (low) common stock returns for rating increases (decreases) before the rating change, but not after the announcement, which suggest that bond rating agencies react to the changing financial and operating conditions of firms after investors had already discounted these changes. A study by Griffin and Sanvicente (1982) partially confirms these results. In particular, the authors examine the adjustments of common stock prices eleven months prior and in the month during the rating change announcement by using 180 rating

changes and monthly stock returns. While the authors find no positive abnormal returns after the announcement of upgrades, their results indicate that downgrades convey new information to common stockholders and thus, cause significant negative market response. By using daily stock return data that surround the rating announcement date, Holthausen and Leftwich (1986) provide support that downgrades are associated with negative abnormal stock returns of -2.66% in the two-day window (0, +1) after an announcement, but no support for abnormal performance on the announcement of upgrades. Goh and Ederington (1993) argue that the significant negative stock response to downgrades cannot be generalized for analyzing two types of rating downgrades. The authors find that downgrades associated with negative financial prospects convey new negative information reflected by the market, but that downgrades due to changes in firm leverage do not. More recent literature by Norden and Weber (2004) finds that markets not only anticipate rating downgrades, but also reviews for downgrades as they exhibit significantly negative abnormal returns on the day of the announcement. In their study, the authors use three major rating agencies, S&P, Moody's and Fitch with significant results only for announcements from S&P and Moody's.

Jorion et al. (2005) investigate the impact of the Regulation Fair Disclosure (RFD) on the information content of rating agencies. The authors find that post RFD, the effect of credit rating changes on stock prices is much greater for both upgrades and downgrades with abnormal returns of - 1.42% for the former and 6.93% for the latter by using stock price data for 437 upgrades and 1,767 downgrades. The authors argue that this is mainly due to the fact that post RFD, rating agencies have access to confidential information that is unavailable to other investment professionals or equity analysts.<sup>1</sup> This implies a greater information asymmetry between the firm and the market following an RFD with a concentration of information at rating agencies.

## 2.2 Bond Price Effects

Katz (1974) uses monthly yield changes to analyze 115 bond reactions to rating changes and finds no abnormal performance after downgrades. Weinstein (1977) examines the behavior of monthly corporate bond prices during the period surrounding the announcement of a rating change. The author finds some evidence of price change during the period from 7 to 18 months before the rating change is announced, but no evidence of any reaction during the 6 months prior to or after the rating change. This contradicts with

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<sup>1</sup>Rule 100 (b)(2) of Regulation FD sets out four exclusions from coverage to whom selective disclosure may be made. The third exclusion from coverage in Rule 100(b)(2) is for disclosures to an entity whose primary business is the issuance of credit ratings, provided the information is solely disclosed for the purpose of developing a credit rating and the entity's ratings are publicly available; see <http://www.sec.gov/rules/final/33-7881.htm> accessed on June 15, 2011.

the findings by Hand et al. (1992) who analyze approximately 1,100 bond rating change announcements by using daily bond and stock prices between 1994 and 1982. Their results suggest that both bonds and stocks experience significant negative returns after the announcement of downgrades with stronger results for below investment grade bonds.

### **2.3 Analyst Impact**

Decos et al. (2007) analyze the impact of analyst activity on firm value. Their results suggest that an increase in analyst following leads to higher REIT performance due to reduced monitoring costs and increased liquidity. Likewise, their results indicate that mortgage REITs show less reaction to analyst following, which implies that mortgage REITs are higher in transparency.

In considering the findings of prior research, if rating agency announcements related to REITs reveal new information to the market, we expect significant abnormal REIT returns around rating announcements. However, if the transparency of the REIT market leads to lower information asymmetry between market participants, the magnitude of the market response should be smaller when compared to common stock.

Furthermore, non-investment grade REITs and rating downgrades to non-investment grades should display a stronger market response due to the loss in status and increased default and dividend omission risk (Hite and Warga, 1997; Dichev and Piotroski, 2001).

## **3. REIT Preferred Stock Ratings**

The main four key factors in the assessment of Moody's REIT ratings are: liquidity and funding, leverage and capital structure, market position and asset quality, and cash flow and earnings. According to Moody's rating methodology, many of their ratings are based on publicly available information which is complemented by additional research and private information to develop future financial expectations. This supports a relatively small information asymmetry within the REIT market.

There are several reasons that support the usage of preferred stock ratings over credit ratings when analyzing the market reaction to REIT ratings. First, preferred stock ratings are directly related to the omission risk of dividends. Since over 90% of REIT earnings are required to be distributed through dividends, an increase in dividend omission risk should result in an immediate share price response. Second, preferred stock ratings are very similar to credit ratings as they express the same risk levels and follow the same range of ratings as shown in Table 1. Moody's classifies preferred stock ratings from

Aaa to D, with modifiers in a numerical form from 1 to 3 to distinguish the risk of preferred stock within a rating class. Ratings Baa and above are considered investment grade and ratings Ba and below are non-investment or speculative grade. Third, several REITs are managed by holding companies that assume all of the debt of the financial vehicle such that for the underlying REIT, there is no credit rating available and an analysis of the credit rating of a holding company would only be indirectly related to the REIT share price. Finally, since payments for debt and preferred stock are closely related because of the dividend requirements of REITs, for more than 95% of the preferred stock rating events of REITs, the same announcement is made for the credit ratings as well or vice versa. However, since debt is generally payable before any dividends, preferred stock is mostly rated one notch below the debt rating. Hence, the results of this study are highly comparable with prior credit rating studies.

**Table 1** Moody's Preferred Stock Rating Classification

Investment Grade	Legend
Aaa	Highest quality with minimal risk
Aa (1,2,3)	High quality with very low risk
A (1,2,3)	Upper-medium quality with low risk
Baa (1,2,3)	Medium quality with moderate risk
Non-Investment Grade	
Ba (1,2,3)	Lower-medium quality with substantial risk
B (1,2,3)	Speculative
Caa (1,2,3)	Poor standing
Ca	Highly speculative
C	Lowest quality
D	Default

*Notes:* Ratings are described in terms of Moody's classification scheme. Ratings Baa and above are considered investment grade, ratings Ba and below are non-investment or speculative.

#### 4. Data

This study uses preferred stock rating events to assess the REIT market reaction. The rating events for this study are obtained from Moody's over the 1999 to 2009 period. Moody's is an online database for individual investors and financial institutions that seek information about the creditworthiness and future prospects of rated firms. As such, information that is published on this database is received by the financial market first-hand. The daily REIT data used in this study are obtained from the Center of Research in Security Prices (CRSP) based on the Standard Industrial Classification (SIC) code 6798. The REITs are then compared to the Moody's listings and four types of rating events are collected for each REIT: (1) first time ratings, (2) outlook changes, (3) reviews and (4) actual rating changes. Each rating event for a REIT results in one sample observation. The observations are categorized by type of event

and indication, i.e. whether the event is positive or negative to the REIT. The initial sample consists of 332 rating events by Moody's from 1999 to 2009. Table 2 presents the number of rating events by direction and year. The largest number of rating events are downgrades (90) followed by reviews for downgrades (59) and upgrades (55). Furthermore, downgrades are clustered in the years 1999 and 2000, 2004, and 2008 and 2009. The largest number of upgrades (11) is observed in 2006. Table 3 illustrates upgrades and downgrades within and across rating classes between 1999 and 2009. An examination reveals that over this period, there are about twice as many downgrades (43) than upgrades (22) across classes. Overall, most of the rating changes (81) occur within each class and within or across non-investment grade (106).

**Table 2** Number of Rating Events by Direction and Year

Year	Negative outlooks	Reviews for downgrade	Actual downgrades	Positive outlooks	Reviews for upgrade	Actual upgrades	First time ratings
1999	6	5	15	1	1	4	4
2000	5	6	14	0	0	1	1
2001	5	8	7	1	3	5	2
2002	8	6	7	8	1	1	1
2003	5	3	6	4	3	10	1
2004	0	9	10	4	2	6	2
2005	2	2	4	10	4	7	0
2006	0	9	3	11	7	11	0
2007	1	3	1	5	0	6	0
2008	7	6	10	1	0	1	0
2009	7	2	13	4	0	3	1
Total	46	59	90	49	21	55	12

*Notes:* The rating events are obtained from Moody's from 1999 through 2009. All rating events are for preferred stock ratings of public real estate companies in the U.S.

Like Jorion et al. (2005) and May (2010), we delete observations that have insufficient financial information and those which are contaminated by other company announcements that precede the rating event, i.e. if the rating report by Moody's states that the rating event is following a company announcement, such as a merger, acquisition or dividend distribution. This reduces our sample to 229 rating events.

## 5. Methodology

To examine abnormal returns around ratings, we employ the standard event study methodology developed by Brown and Warner (1985) and estimate a market model for each observation similar to Ederington and Goh (1998) and Norden and Weber (2004) by using the NAREIT daily index which is

obtained from Datastream. The abnormal returns are then calculated over a four day event window (day -1 through day +2) by subtracting the expected return from the daily return for each REIT. Hand et al. (1992) make the point that downgrades are preceded by negative average excess returns that cause downward biases. Therefore, we estimate the market model over a post-rating event estimation period (60, 255).

**Table 3 Transition Matrix of REIT Rating Changes from 1999 to 2009**

Old Rating									Total	% down across class	% up across class	
	Aaa	Aa	A	Baa	Ba	B	Caa	Ca				C
Aaa										0	0	0
Aa										0	0	0
A				1						1	100.0	0
Baa				23	15	1				39	38.5	0
Ba	1			12	33	11				57	19.3	22.8
B			4			22	9			35	25.7	11.4
Caa					3		3	4	1	11	45.5	27.3
Ca							2		1	3	33.3	66.7
C										0	0	0
D										0	0	0
Total	0	0	40	48	37	14	4	2	146	29.5	15.1	
Downgrades across class = 43												
Upgrades across class = 22												

**Notes:** The rating events are obtained from Moody's from 1999 through 2009. The table shows rating upgrades and downgrades within and across rating categories. All rating events are for preferred stock ratings of public real estate companies in the U.S. The percentage down (up) across classes shows the number of rating changes to a lower (higher) grade in relation to all rating changes within each class. Rating changes above (below) the diagonal line are downgrades (upgrades) across rating classes.

## 6. Results

### 6.1 Abnormal Returns

Table 4 presents the market adjusted and cumulative mean abnormal returns around the rating events. Consistent with prior studies, the data suggest that there are negative abnormal returns around rating downgrades and positive abnormal returns around rating upgrades. Both results are statistically significant at the 5%-level. Furthermore, the market reaction to negative outlooks is negative and statistically significant at the 10%-level. All other rating events do not display any significant abnormal returns around the announcement. When looking at the cumulative abnormal returns for several event windows, again, we find abnormal returns only for rating downgrades,



**Table 4** Market Adjusted Mean Abnormal Returns and Cumulative Mean Abnormal Returns (CAR) Around Rating Announcements

Type of Rating Event	Day Relative to Rating Event					CAR			
		-1	0	1	2	(0,+1)	(0,+2)	(-1,0)	(-1,+1)
First Time Rating (n = 10)	AR (%)	0.43	-0.49	0.06	-0.33	-0.43	-0.76	-0.06	0.00
	<i>t</i> -test	(1.28)	(-1.26)	(0.18)	(-0.67)	(-0.75)	(-1.14)	(-0.09)	(0.00)
Negative Outlook (n = 34)	AR (%)	-0.73*	-1.06*	-0.83*	-0.79	-1.88***	-2.67***	-1.78**	-2.61***
	<i>t</i> -test	(-1.76)	(-1.86)	(-1.92)	(-1.54)	(-3.32)	(-2.77)	(-2.15)	(-3.10)
Reviews for Downgrades (n = 20)	AR (%)	0.71	-0.67	0.07	0.43	-0.60	-0.17	0.04	0.11
	<i>t</i> -test	(0.74)	(-1.08)	(0.06)	(0.60)	(-0.45)	(-0.12)	(0.04)	(0.08)
Actual Downgrades (n = 66)	AR (%)	-0.18	-0.79	-1.37*	-0.24	-2.09**	-2.29**	-0.94	-2.23*
	<i>t</i> -test	(-0.28)	(-1.17)	(-1.96)	(-0.44)	(-2.02)	(-2.28)	(-1.06)	(-1.81)
Positive Outlook (n = 44)	AR (%)	-0.03	0.34	-0.24	0.22	0.11	0.33	0.32	0.08
	<i>t</i> -test	(-0.16)	(0.96)	(-1.36)	(1.24)	(0.29)	(0.73)	(0.83)	(0.21)
Reviews for Upgrades (n = 10)	AR (%)	0.79	-0.48	0.14	0.02	-0.34	-0.31	0.31	0.45
	<i>t</i> -test	(1.58)	(-0.86)	(0.39)	(0.10)	(-0.49)	(-0.48)	(0.36)	(0.44)
Actual Upgrades (n = 45)	AR (%)	0.39*	0.69**	-0.02	0.03	0.67**	0.69**	1.08***	1.06**
	<i>t</i> -test	(1.82)	(2.43)	(-0.06)	(0.17)	(2.09)	(2.18)	(2.80)	(2.31)

**Notes:** The table presents the mean abnormal REIT returns in the event window -1 through +2 for a sample of preferred stock rating announcements in the time period 1999 to 2009. The abnormal return is obtained by subtracting the expected market return from the observed return on the event days. The parameters for the expected market return are estimated by applying the market model to each rating announcement by using the NAREIT daily index as the market proxy. The estimation period for each event is +60,+255. The cumulative mean abnormal return (CAR) is the summation of abnormal returns for each respective event window. \*, \*\*, and \*\*\* denote statistical significance at 10%, 5%, and 1% respectively.

upgrades and negative outlooks. The largest negative abnormal return of -2.67% for negative outlooks is observed during the event window 0 through +2 which is statistically significant at the 1%-level. Likewise, rating downgrades display the largest negative abnormal return of -2.29% in the even window 0 through +2 which is statistically significant at the 5%-level. Rating upgrades show significant positive abnormal returns in all analyzed event windows with the highest abnormal return of 1.08% in the event window -1 through 0. Overall, compared to the non-REIT literature, the abnormal returns are smaller in magnitude for similar event windows, which suggests less information asymmetry within the REIT market.

## **6.2 Source of Abnormal Returns**

It is important to investigate the determinants of abnormal returns. Table 5 presents the cumulative market adjusted mean abnormal REIT returns within and across investment grade for the event window -1 through +1. The examination reveals that cumulative abnormal returns are larger for both rating upgrades (1.42%) and downgrades (-4.31%) for non-investment grade REITs. Furthermore, the abnormal return for rating downgrades for investment grade REITs is positive and insignificant, which indicates less information asymmetry for investment grade REITs. Negative outlooks display similar significant negative abnormal returns in either category. Furthermore, reviews for downgrades are negative and significant at the 10%-level. However, due to the small sample size, an interpretation of these results should be carefully made. Interestingly, in contrast to prior non-REIT literature, upgrades to investment grade and downgrades to non-investment grade do not have a significant market reaction, which suggest that the market expectation is already priced into the stock prior to these rating events.

Overall, the results suggest a significant market reaction to upgrades, downgrades and negative outlooks. For upgrades and downgrades, the abnormal returns are larger for non-investment grade REITs which is consistent with previous literature by Hite and Warga (1997) and Dichev and Piotroski (2001) for the non-REIT market. First time ratings, positive outlooks, and reviews for upgrades do not show a significant market reaction in the event period analyzed. Compared to the non-REIT literature, the abnormal returns are less pronounced and smaller in magnitude. This supports our hypothesis that the REIT market, due to higher transparency, is less impacted by rating events.

## **6.3 Implications to Global Investors**

Given the results of REIT market reaction to rating announcements, there are several implications for global investors with regard to managing investment assets. First, a significant market reaction to rating announcements indicates that rating agencies mitigate the information asymmetry within the REIT market. Hence, rating agencies are able to serve, at least partially, as

informational guides for global investors who seek to invest in REITs across international markets. Second, the small magnitude of abnormal returns compared to traditional results on common stock and bonds for similar event windows suggests that the REIT market itself has less information asymmetry between REIT and investor. This higher transparency offers global investors the opportunity to reduce the risk exposure of asset portfolios by especially investing in investment grade REITs. Finally, while REITs seem to have overall less information asymmetry independent of the investment grade, non-investment grade REITs present an attractive alternative for speculative investors when investing in the real estate market.

**Table 5 Mean Abnormal REIT Returns by Investment Grade**

Type of Rating Event		Investment grade		Non-investment grade	
		Within	Across	Within	Across
First Time Rating	AR (%)		-1.26		0.54
	<i>t</i> -test		(-0.78)		(0.58)
	n		3		8
Negative Outlook	AR (%)	-2.79**		-2.37*	
	<i>t</i> -test	(-2.31)		(-2.00)	
	n	19		15	
Reviews for Downgrades	AR (%)	-2.61*		1.02	
	<i>t</i> -test	(-2.26)		(0.56)	
	n	5		15	
Actual Downgrades	AR (%)	1.16		-4.31***	2.87
	<i>t</i> -test	(0.80)		(-2.84)	(0.75)
	n	12		44	
Positive Outlook	AR (%)	-0.49		0.28	
	<i>t</i> -test	(-1.13)		(0.54)	
	n	11		33	
Reviews for Upgrades	AR (%)	-0.55		0.88	
	<i>t</i> -test	(-0.54)		(0.62)	
	n	3		7	
Actual Upgrades	AR (%)	0.87*	0.35	1.42*	
	<i>t</i> -test	(2.16)	(0.63)	(1.89)	
	n	8	11	26	

**Notes:** The table presents the cumulative abnormal REIT returns for the event window (-1, +1) for a sample of preferred stock rating announcements in the time period 1999 to 2009. Within denotes the abnormal CAR in the respective grade. Across denotes the rating change into the respective grade. The abnormal return is obtained by subtracting the expected market return from the observed return on the event days. The parameters for the expected market return are estimated by applying the market model to each rating announcement by using the NAREIT daily index as the market proxy. The estimation period for each event is +60, +255. \*, \*\*, and \*\*\* denote statistical significance at 10%, 5%, and 1% respectively.

## 7. Conclusion

The information content and impact of credit ratings on bond and stock prices have received considerable attention in the academic literature. However, the previous literature does not account for companies that are more transparent in nature. The characteristics of the REIT market suggest that the information asymmetry between REIT and REIT investors should be overall smaller than that for the non-REIT market. Therefore, in this paper, we have analyzed the market reaction to REIT preferred stock ratings announced by Moody's over the 1999-2009 period related to four types of rating events; first time ratings, outlook changes, reviews and actual rating changes. We find a significant market reaction to upgrades of 1.08% abnormal return, and downgrades and negative outlooks of -2.28% and -2.67% negative abnormal returns, respectively. When analyzing rating events by investment grade of the REIT, the upgrades and downgrades show larger abnormal returns for non-investment grade REITs. However, compared to the non-REIT literature, the abnormal returns are smaller in magnitude. Consistent with prior research, our results suggest that rating agencies mitigate the information asymmetry within the REIT market and are able to serve as informational guides for global investors. Furthermore, the smaller magnitude of abnormal returns and higher transparency of the REIT market offer risk-reducing diversification opportunities.

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