



Afro-Asian J. of Finance and Accounting

ISSN online: 1751-6455 - ISSN print: 1751-6447

<https://www.inderscience.com/aajfa>

The effect of credit rating announcements on stock returns of banks in India

Silky Vigg Kushwah, C.A. Manav Vigg

DOI: [10.1504/AJFA.2020.10052268](https://doi.org/10.1504/AJFA.2020.10052268)

Article History:

Received:	05 April 2020
Last revised:	28 August 2020
Accepted:	22 October 2020
Published online:	31 January 2023

The effect of credit rating announcements on stock returns of banks in India

Silky Vigg Kushwah*

New Delhi Institute of Management,
60 & 50(B&C), Tughlakabad Institutional Area,
New Delhi, India
Email: dr.silkyviggkushwah@gmail.com
*Corresponding author

C.A. Manav Vigg

Amity Business School,
Amity University,
Opposite Airport, Maharajpura, Gwalior,
Madhya Pradesh 474005, India
Email: manav.vigg@gmail.com

Abstract: This study investigates the impact of credit rating changes on the stock returns of the commercial banks of India. The study reports that the bank returns are significantly negative during the pre-downgrade announcement period. Interestingly, the returns are negative again on the downgrade announcement day. Conversely, the bank returns turn insignificantly positive during the post downgrade announcement period. The study concludes that downgrades do not have a negative wealth impact on banks' stock returns after the announcement by credit rating agencies. Eventually, it results in early awareness of investors regarding the financial position of the banks, and it does not come as a shock to them. The study has a direct implication on short-term investors who rely highly on the announcements by rating agencies to make buy/sell decisions. Moreover, the study will also help the regulators and banks better understand the impact of such rating changes on stock returns.

Keywords: event study; market efficiency; average abnormal return; AAR; cumulative abnormal return; CAR; banks; credit rating; India.

Reference to this paper should be made as follows: Kushwah, S.V. and Vigg, C.A.M. (2023) 'The effect of credit rating announcements on stock returns of banks in India', *Afro-Asian J. Finance and Accounting*, Vol. 13, No. 1, pp.41–53.

Biographical notes: Silky Vigg Kushwah is a recipient of Major Research Project under IMPRESS scheme of Ministry of Human Resource Development, She is currently working in the Department of Finance at New Delhi Institute of Management (NDIM). She has received her PhD in Management in 2009 from Jiwaji University, Gwalior, MP under the supervision of Professor Umesh Holani. She has obtained her Master's in Business Administration with Finance as a specialisation from IMS, Devi Ahilya University, India. In her 16 years of research and teaching experience, she has got more than 60 research papers published in both international and national journals, including Scopus and ABDC listed journals. She has presented her research work in more than

40 international and national conferences at places in India (including IIMs, IITs, etc.), Australia, Hong Kong, Singapore, Dubai, and Indonesia, etc. She is guiding PhD scholars of Jamia Hamdard University, New Delhi, and Mewar University, Rajasthan.

C.A. Manav Vigg is a May 2003 qualified Chartered Accountant with 14 years of corporate experience in the field of corporate banking, credit underwriting, process improvement and financial planning and analysis. He has worked extensively with banks and NBFCs including CitiFinancial, HSBC and Fidelity. He moved to academics in 2018 and joined Amity Business School as an Assistant Professor.

1 Introduction

The collapse of many banks and financial institutions during the sub-prime crisis in the US and the subsequent debt crisis in the European Union expresses fresh concerns. These concerns are over the instability of global financial markets, the increased volatility and the spillover effect of such events across different financial assets and also across different countries. It has been witnessed that any substantial event occurring in one of the dominant economies may have spillover effects on other economies. This phenomenon has led to the co-integration among various financial markets. This volatility and cointegration among the financial markets have again reopened a debate on the role and impact of credit rating agencies on the financial markets. Literature gives mixed results on this impact of credit rating changes on the financial markets. If the publicly available information forms the main source and base for the credit rating agencies to take the decisions and make changes in the rating then the stock returns will not fluctuate on the occurrence of such events because according to the efficient market hypothesis (EMH), stock prices have already adjusted the available public information. On the other hand, if stock prices react on the credit rating change then it reflects either the evidence of inefficiency in the semi-strong form of EMH or the availability of some private information with the credit rating agency (Kliger and Sarig, 2000).

During the investigation of the subprime crisis and the European debt crisis, the existing credit rating agencies were also criticised for not giving the true picture of the products and the companies, relaxing their rating processes and downgrading the sovereign rating of different countries inaccurately (Benmelech and Dlugosz, 2010; IMF, 2010). These credit rating agencies were also accused of the lack of transparency and the unnecessary trustworthiness from the regulators and investors (Deb et al., 2011). Regulators had apprehensions that the credit rating agencies may cause volatility and instability in financial markets. These criticisms and reservations led various regulators like International Organisation of Securities Commissions (IOSCO), the European Securities and Markets Authority (ESMA), the United States Securities and Exchange Commission, Basel Committee, etc. to develop reforms. Some of these reforms were increasing transparency of rating methodologies, competition among credit rating agencies, compulsory registration of credit rating agencies with regulators, asking for enhanced diffusion of the statistics on their rating procedures, levying constraints to avoid conflicts of interest between the issuers and the agencies and many more such reforms to tighten supervision of the credit rating agencies. Later in 2010, there were a

new set of principles published by the Financial Stability Board (FSB) to minimise the undue dependency of investors, regulators and other agents on the credit rating agencies.

Even after implementing many reforms in different parts of the world, existing literature reflects that there is a significant impact of a credit rating on the financial markets. The literature throws light on two different conclusions. Some studies support the impact of a credit rating on the stock and bond returns whereas some studies do not support it. In the 1970s, two different notable studies concluded that credit rating announcements do not result in significant abnormal returns, Weinstein (1977) and Wakeman (1978). On the other hand, there are notable studies that witness strong association of downgrades announcements made by credit rating agencies with negative abnormal stock returns (Grier and Katz, 1976; Holthausen and Leftwich, 1986; Brooks et al., 2011; Ingram et al., 1983; Katz, 1974; Barron et al., 1997; Ederington and Goh, 1998; Glascock et al., 1987; Goh and Ederington, 1993, 1999; Griffin and Sanvicente, 1982; Impson et al., 1992; Matolcsy and Lianto, 1995; Wansley et al., 1992; Zaima and McCarthy, 1988; Wansley and Clauretje, 1985). Some of these studies also did some research on the upgrades announcements by credit rating agencies and conclude that upgrades have no significant reaction in the stock market. Another study that contributes to the credit rating literature establishes that downgrades announcement by Standard & Poor's provide information to the stock market and also levy costs to the companies by declining the stock prices. Although the study concludes that the upgrades announcements have no significant impact on the company's stock prices (Holthausen and Leftwich, 1986). A couple of studies conducted in different financial markets also highlight that downgrades by credit rating impact the stock returns in a negative manner (Hand et al., 1992; Kaminsky and Schmukler, 2002; Brooks et al., 2004; Martell, 2005; Ferreira and Gama, 2007; Arezki et al., 2011; Hill et al., 2010; Afonso et al., 2012).

Although the impact of credit rating announcements (downgrades or upgrades) on the financial markets has been researched extensively, there are some motivational factors to conduct the current study. Firstly, it has been observed and to the best of our knowledge, this paper is the first attempt to investigate the impact of credit rating announcements on the stock returns of Indian banks. Banks, as financial intermediaries, play a crucial role by bringing enhanced liquidity and promoting market efficiency (Kaur and Vij, 2018). Due to this crucial financial role played by banks in emerging economies like India (Wei et al., 2019), this study focuses on rating announcements on the banking sector. So, the present study will help both the banks and the regulatory agencies like Securities Exchange Board of India (SEBI), Reserve Bank of India (RBI) to get a better understanding of the effect of downgrading announcements of Indian banks by rating agencies on their stock returns. Secondly, the existing literature exhibits mixed results which lack conclusiveness. Thirdly, the impact of credit rating announcements on stock returns may vary over time from economy to economy.

Last but not the least, the fact which cannot be ignored is that today's investors show a greater inclination towards international asset allocation because of the inevitable globalisation of financial markets. It becomes extremely crucial to assess the risk associated with both national and international financial assets. Accordingly, this study is motivated by the fundamental requirement to unearth shreds of evidence that will either boost our confidence in using the findings derived for credit rating announcement's impact on stock returns or it will guide us towards making suitable changes in the existing knowledge towards credit rating changes.

The next section of the study gives the literature review (Section 2). It is then followed by data and methodology (Section 3). Empirical analysis (Section 4) is further followed by the conclusions (Section 5).

2 Literature review

Numerous studies have analysed the impact of credit rating announcements on stock and bond markets. However, most of these studies investigate the impact of rating on financial markets, from the point of view of either sovereign rating or credit rating of companies. There have been very few studies exclusively analysing the impact of rating change on the banking sector. Some of the outstanding studies are discussed here. There exist three strands of literature with the outcomes of the studies as mixed.

One of the strands of studies reflects that there is no significant change in the stock returns after the downgrading and upgrading announcements (Pinches and Singleton, 1978; Wansley et al., 1992; Hite and Warga, 1997; Steiner and Heinke, 2001; Weinstein, 1977; Wakeman, 1978). Pinches and Singleton (1978), in their study, analyse the effect of credit rating announcement by Moody's credit rating agency on stock returns of 207 firms from 1959 to 1972. Monthly abnormal stock returns during this period are considered and returns are compared before and after the credit rating announcements. It concludes that no abnormal reactions are seen after the announcements. In another study, the impact of S&P and Moody's credit rating announcements on the returns of 46 bonds between 1963–1973 is examined and results suggest that there is little movement in the bond returns on degrades and no movements on upgrades at all (Hettenhouse and Sartoris, 1976). A bond market study carried out on 412 bonds both from utilities and industrials examines Moody's credit rating announcements on their returns for a period of 13 years, 1962–1974. It witnesses no abnormal returns neither before the event nor after the announcement event (Weinstein, 1977). Some studies have also concluded that no significant reaction is observed during the events of positive announcements by the rating agencies (Hand et al., 1992; Goh and Ederington, 1993; Holthausen and Leftwich, 1986).

In contrast to that, there is the second strand of studies that reflect a negative impact of downgrade announcement on the returns of stocks and bonds and vice-versa (Griffin and Sanvicente, 1982; Glascock et al., 1987; Hand et al., 1992; Dichev and Piotroski, 2001). Research conducted during 1960–1975 examines the rating by Moody's and S&P on stock returns. The result suggests a negative impact after the announcement of the downgrade rating of a few firms (Griffin and Sanvicente, 1982). In another research, the impact of 162 credit rating by Moodys from 1977–1981 has been investigated. The results highlight negative abnormal returns in short-run, before and around the downgrade announcement (Glascock et al., 1987). Hand et al. (1992) examine the effect of rating changes by Moody's & S&P of both stock and bond on their returns. They suggest significantly negative abnormal returns of both stock and bond on downgrade rating. Another study conducted for a period of eight years from 1970 to 1977 analyses Moody's announcements on stock returns and it concludes a significant negative return during the first month after the announcement of a downgrade (Dichev and Piotroski, 2001).

Studies are conducted on bond markets too and the results of some studies are quite similar to studies on concluding the negative impact of a rating on stock return. In a study, 115 bonds are examined and rating announcements do not result in monthly yield

changes immediately but abnormal changes are witnessed during six to ten weeks after the downgrade announcements (Vassalou and Xing, 2003). In another bond market study, monthly bond returns of 96 bonds from utilities and industrials from 1966 to 1972 are investigated for the impact of rating announcements of S&P and it concludes that monthly bond returns changes after downgrades (Grier and Katz, 1976). Beckmann and Jin (2013) analyses the impact of Moody's rating changes announcement on the returns of real estate investment trust (REIT) for a period of ten years from 1999 to 2009 and reveal that the returns are negative to the downgrade and they turn positive to the upgrade by the rating agency.

The third strand of literature focuses on mixed reactions within each study. In a study, 1,014 rating changes by Moody's and S&P are investigated from 1977–1982. Two different results emerged out from this study. One result indicates a significant negative impact of downgraded announcement and another result indicates that upgrade does not result in a significant positive impact on stock returns (Holthausen and Leftwich, 1986). Another study analyses the stock returns and examines Moody's rating changes on stock returns. The results highlight negative returns in case of downgraded announcements by credit rating agency due to earning deterioration and positive abnormal returns on downgraded announcements due to increased leverages (Goh and Ederington, 1993). One more mixed result is highlighted in an investigation on Portugal and German indices for a period of ten years from 2004 to 2014. It highlights that the results are different for both the markets. Germany's stock indices had a significant impact of the downgrade and no impact of the upgrade, whereas, Portugal witnesses no effect on the stock returns either of the downgrades and upgrades by credit rating agencies (Penha, 2015).

2.1 Effect of bank rating on financial markets

Quite a few studies have analysed the impact of bank rating on the stock market returns. Some of the notable studies have been discussed here. A study examines the effect of rating changes on stock returns of banks and finds that both downgrades and upgrades have significant yet limited impact on bank stock returns (Schweitzer et al., 1992). Billet et al. (1998) examine this impact and the results demonstrate that downgrades announcements end in negatively abnormal returns of the banking stocks. In another study, Richards and Deddouche (1999) investigate the relationship between rating announcements and stock returns in emerging markets and conclude that there is no significant impact of both upgrades and downgrades on the share prices of banks. A study conducted in European region investigates the effect of rating changes on both the bond market and stock market. The conclusion of the study highlights that the impact on bond returns is weak but the effect on stock returns is significant (Gropp and Richards, 2001). They support the theory that ratings reflect relevant information about the market that is not adjusted by the investors. Therefore, the investors assume that credit rating agencies have access to private information or they have the privilege to get public information first. In yet another study, the impact of rating on the stock returns during the financial crisis is studied. The researchers try to examine the change in investors' perceptions on the downgrading news related to banks especially after the establishment of the new regulatory regime in Europe. The study throws light on the insignificant change in investors' perceptions about the banks downgrading announcements (Alsakka et al., 2015). The study also demonstrates that the impact of downgrade announcements on

banks' stock returns are different for different credit rating agencies like Moody's, S&P and Fitch.

The literature on credit rating announcement is further refined by studies like that of Klinger and Sarig (2000). According to them, credit rating agencies have insider information about the company which is not publically disclosed as they work very closely with the company and eventually such announcements results in price variations. In another study conducted by Jorion et al. (2005), US stock market changes are examined before and after the SEC's Fair Disclosure Regulation. The main theme of this regulation is to make US firms share all relevant information to the whole market instead of revealing it to the big brokers, analyst, etc. but credit rating agencies are the only exception to private commercially sensitive information. So this results in making credit rating agencies having better insider information about the firms after this regulation n. The study gives different results for both pre- and post-fair disclosure regulation periods. For the earlier period before the regulation, the results are consistent with some previous studies and showed a significant abnormal negative reaction to the downgrades and no significant positive results to upgrades by credit rating agencies. However, the results are different for the period after the regulation passed. The negative abnormal reaction is strengthened to the downgrades and there is a significant positive reaction to the upgrades. Another new insight from a study conducted by Creighton et al. (2007) investigates the bond market and equity market and checked the impact of credit rating changes on its returns. The results suggest that the impact is small. Another interesting result indicates that the reaction of the stock price is greater for small firms as compared to big firms.

Some of the studies conducted in Indian financial market are also discussed here. A study examines the impact of rating and concludes that stocks react negatively to the downgrade as it provides new information to the market. On the other hand, there is no significant change in the stock prices to the upgrade (Archana et al., 2015). In another study, stock returns of companies in India are analysed to examine the impact of four important rating agencies namely CRISIL, ICRA, CARE and Fitch announcements on stock returns. It suggests that there is no company earning abnormal returns after the changes announced by the rating agency (Chandrashekar and Mallikarjunappa, 2013). A study by Lal and Mitra (2011) analyse the impact of changes done by rating agencies on the stock returns of some Indian companies. The results highlight that the investors behave moderately on such announcements but in case the news is negative, the investors have significant negative abnormal returns.

In this paper, we extend the existing literature on credit rating announcements in many ways. Firstly, this paper is one of the earliest studies to investigate whether there are price reactions related to credit rating announcements for banking companies in India. Secondly, we analyse the most current period and use all the credit rating announcements related to the Indian banking sector of the time considered so the dataset is relatively large. Thirdly, we concentrate on a short period to examine the immediate price reaction of credit rating announcements instead of the long-term impact on stock returns.

3 Data and methodology

The current study focuses on assessing the impact of a downgrade of Indian banks by the rating agency, CRISIL on stock returns of those banks for the period 2015 to 2020.

Table 1 lists the detail of the downgrade announcement of banks considered as a sample. The criteria for selection of sample requires the bank whose rating is revised by CRISIL must have been listed on the National Stock Exchange (NSE) at least one year before the rating change. Moreover, only downgrade rating announcements of such banks is considered in the study. The rating and official dates of rating are picked up directly from the website of CRISIL, i.e., <http://www.crisil.com>. CRISIL downgraded 12 commercial banks during the study period, namely Punjab National Bank, Corporation Bank, Indian Overseas Bank, Dena Bank, UCO Bank, Andhra Bank, Bank of Baroda, Bank of India, Canara Bank, Central Bank of India, Punjab and Sind Bank and IDBI bank and all have been considered in the current study. There are in total 23 downgrade announcement dates declared by CRI SIL during the study period.

Table 1 CRISIL’s downgrading announcement of banks during the period 2015–2020

<i>S. no.</i>	<i>Bank</i>	<i>Downgrade announcement date</i>
1	Corporation Bank	March 10, 2016
2	Corporation Bank	August 31, 2017
3	Corporation Bank	August 30, 2018
4	Punjab National Bank	March 10, 2016
5	Punjab National Bank	December 20, 2018
6	IDBI Bank	February 26, 2015
7	IDBI Bank	March 12, 2015
8	IDBI Bank	December 28, 2015
9	IDBI Bank	February 2, 2016
10	IDBI Bank	March 10, 2016
11	IDBI Bank	August 4, 2016
12	IDBI Bank	May 4, 2017
13	IDBI Bank	May 23, 2017
14	IDBI Bank	November 22, 2018
15	Indian Overseas Bank	March 10, 2016
16	Dena Bank	March 10, 2016
17	UCO Bank	March 10, 2016
18	Andhra Bank	March 10, 2016
19	Bank of Baroda	March 10, 2016
20	Bank of India	March 10, 2016
21	Canara Bank	March 10, 2016
22	Central Bank of India	March 10, 2016
23	Punjab and Sind Bank	March 10, 2016

Source: Data accessed from the official website of CRISIL

The data for the analysis consists of daily observations of banking stocks during the period from 2015 to 2020. The daily closing stock prices of banks have been picked up from the official website of NSE, i.e., <http://www.nseindia.com>. Among all the types of shares, only ‘common stocks’ are captured in the current study. Consequently, shares with distinctive characteristics such as preference shares, real estate investment funds

(REITs) and Global deposit receipts (GDRs) and American deposits receipts (ADRs) are not included from the analysis. The return (Rt) is defined as the logarithm difference between the price of the shares on days t and $t - 1$. To assess the basic feature of the data, descriptive statistics are calculated. They are depicted in Table 2. It is seen that the mean is negative and quite low both before and after the CRISIL's downgrading announcements. The standard deviation also depicts equality across banks both before and after the event. The Jarque-Bera results indicate the normality of the variables.

Table 2 Descriptives

	<i>Bank</i>	<i>Mean</i>	<i>S.D</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>Jarque-Bera</i>	<i>p-value</i>
1	Corporation Bank	0.0341	0.0398	0.794	3.811	127.79	0.000
2	Corporation Bank	-0.0472	0.0519	1.629	2.722	156.50	0.000
3	Corporation Bank	0.0260	0.0812	0.937	2.953	183.24	0.000
4	Punjab National Bank	-0.0026	0.0209	0.054	-1.238	212.34	0.000
5	Punjab National Bank	-0.0491	0.0384	0.951	2.567	163.83	0.000
6	IDBI Bank	-0.0034	0.0201	0.589	1.449	154.98	0.000
7	IDBI Bank	-0.0612	0.0618	0.712	2.915	276.91	0.000
8	IDBI Bank	-0.0291	0.0283	0.823	2.405	240.67	0.000
9	IDBI Bank	0.0591	0.0820	0.914	3.018	165.92	0.000
10	IDBI Bank	-0.0147	0.0261	1.478	3.619	139.84	0.000
11	IDBI Bank	-0.0815	0.0593	1.043	3.052	149.28	0.000
12	IDBI Bank	0.0294	0.0294	0.837	2.017	192.56	0.000
13	IDBI Bank	-0.0819	0.0601	0.810	2.946	185.64	0.000
14	IDBI Bank	0.0381	0.0481	1.011	3.048	195.30	0.000
15	Indian Overseas Bank	0.0290	0.0285	0.364	-0.526	387.79	0.000
16	Dena Bank	-0.0231	0.0322	-0.792	1.523	416.92	0.000
17	UCO Bank	-0.0024	0.0377	0.695	2.909	137.36	0.000
18	Andhra Bank	-0.0014	0.0099	0.414	-0.383	245.90	0.000
19	Bank of Baroda	-0.0021	0.0159	-0.515	-0.911	165.67	0.000
20	Bank of India	0.0091	0.0184	0.728	1.339	367.32	0.000
21	Canara Bank	-0.0096	0.0302	-0.062	-0.327	482.12	0.000
22	Central Bank of India	0.0248	0.0217	0.393	-0.583	327.13	0.000
23	Punjab and Sind Bank	-0.0292	0.0392	-0.758	1.587	438.64	0.000

Source: Authors' calculations

3.1 Methodology

We have utilised the event study methodology to examine the impact of issuers rating signals on the stock returns (Arezki et al., 2011). This methodology consists of analysing the behaviour of the abnormal returns (AR) of the shares at the moment the rating signal is issued. The ARs are defined as the difference between the return at moment t and the expected return [equation (1)]. This difference is defined according to the methodology

of adjusted mean return. Abnormal returns Ar_{it} , have been calculated following the market adjusted model (Shevlin, 1981; Brown and Warner, 1985):

$$Ar_{it} = R_{it} - R_t \quad (1)$$

where AR_{it} is the abnormal return of bank on day t , R_{it} is the return on shares of bank i on day t . and R_t is the daily return of the market index, Bankex on day t . Abnormal returns, AR_{it} , cumulated during consecutive days reflect what are known as cumulative abnormal returns (CARs). To analyse the effect of banks' issuer rating signals on CARs, the period defined as the event includes the abnormal returns cumulated between the day when the issuer rating signal was issued and the next day ($t = 0$ and $t = 1$). These short windows avoid contamination issues from other rating signals (Gande and Parsley, 2005). The effect of downgrading announcements on bank stock prices using both average abnormal returns (AARs) and CAR using various windows surrounding the downgrade announcement date (day 0), pre- and post-announcement date including $(-10, +10)$, $(-5, +5)$ and $-1, +1$ is examined in the study. CRISIL or any other credit rating agencies utilises their rating assessment tools whenever there is a piece of new information related to the company, both public and private. The information can be of any type like buyback of shares, right issue, a merger of a company, issue of new capital, distribution of dividends, expansion plan, etc. And if such announcement is considered crucial as it might change the company's future growth and earnings, it is definite to attract the attention of credit rating agencies and may start the market reaction.

To understand the real effect of credit rating announcement, while avoiding the baffling impact of any other news related to the company, directly or indirectly, prevailing at that time, there are some control measures (Holthausen and Leftwich, 1986; Hand et al., 1992). This study has tried to identify any parallel news influencing the results by searching for any new story on the NSE 2 days before and after the event. If any such story appeared than that observation is considered as contaminated and is removed. Twenty-three events considered in this study are found to be non-contaminated as no such big news occurred in the four days window for the sample.

4 Empirical analysis

This section presents the results of the effect of downgrade announcements of banks by CRISIL on their stock returns. The results on the impact of downgrades on banking stock returns around the rating change announcement are presented in Table 3. There is a significant negative abnormal return during the period before the announcement event, especially in the three days leading up to the announcement of downgrades. The AAR of banking stocks on these three days is -1.23% , -1.47% and -1.65% , all significant at the 5% level. The ARR of the banking stocks on the downgrade announcement day is also statistically significantly negative at -1.79% . The ARR of the stocks in the post-downgrade announcement period, especially a day after the announcement is statistically insignificantly positive. The CAR also follows the ARR trend. The CRR of the sample is significantly negative (-1.46%) for the pre-announcement period and for the announcement period of $(0, +1)$ is -1.48% , which is also significant. The reaction of the stocks in the market is seen to be prominent in case of a downgrading event, especially if it has resulted in dropping the investment-grade status of the company. It is

assumed that the consequence of losing investment-grade status is a financial loss to the company. It is also translated that such company may suffer a decline in the future cash flows as the business will be down. It may also bear borrowing constraints with an even higher cost of debt. It is because banks and financial institutions are usually stopped by regulatory bodies from holding securities of such company which have a rating below investment grade.

Table 3 The stock price response to rating downgrades

<i>Announcement window</i>	<i>Downgrades</i>
-10 to -1	-4.61%
-1 to 0	(2.32)
	-1.23%
0	(2.46)
	-1.79%
0 to +1	(2.73)
	1.39%
-5 to +5	(3.41)
	-2.35%
-10 to +10	(2.06)
	-4.38%
	(2.59)

Notes: It reports the average CAR for various announcement windows. Day 0 is the day of event, i.e., date of announcement of degrade. The total number of observations downgrades on the announcement day (day 0) is 23. The degrade announcements are for the period 2015–2020. The figures in parentheses are the t-statistic at 5% significance level.

Source: Authors' calculations

It can be highlighted from the current findings that the reaction of the credit rating agency's downgrading exercise is confined to just three days before the event date. This reaction is similar to that of Choy et al. (2006) and Holthausen and Leftwich (1986). The justifications for no significant reaction after the downgrade announcement can be that either such negative announcements do not come as a surprise for the shareholders or it is also possible that the shareholders do not consider this announcement as a piece of bad news. The findings are also in line with that of Griffin and Sanvicente (1982), Glascock et al. (1987), Hand et al. (1992) and Dichev and Piotroski (2001) to the extent that the ARR and CRR are negative in the pre-announcement period of downgrade revision but the results do not match with them for the post-announcement period.

Another reason for banking stocks not reflecting significant abnormal returns posts downgrades announcement date can be information efficiency. The banking sector in India is highly regulated by the central bank, RBI. Because of the tight regulations and transparency towards the regulator, the banking sector produces a substantial amount of publically available information. It is because of this regulatory environment that credit rating announcements merely impact the stock returns of bank post the degrading announcement as the information given by credit rating agency is already prevailing in the market due to the regulatory process.

5 Conclusions

The current study examines the market reaction to the downgrading of Indian banks done by the CRISIL during the period 2015–2020 enabling us to examine whether investors respond to bank rating announcements. The study suggests that there is a significant negative reaction to downgrades during the pre-announcement period and on the downgrading event. In contrast to that, there is an insignificant reaction to such downgrades during the post-announcement period. So, it could be concluded that regulators like RBI and SEBI seem to serve as an alternative source of information (Choy et al., 2006) so the downgrading announcements do not come as a shock to the investors. The present study will have an implication on both the banks and the regulatory agencies like SEBI and RBI. It will help them to get a better understanding of the effect of downgrading announcements of Indian banks by rating agencies on their stock returns. The findings of the study will also have a direct implication on the confidence level and safe investment of retail investors as the study documents that credit rating announcements will not result in making the stock returns volatile. A company with a high credit rating is considered to be financially strong, viable and creditworthy with stakeholders having more confidence in it. If the credit rating is revised, it reflects that there is some change in the financial position of the company. This highlights the significance of ever-increasing supervision and regulation of credit rating agencies by the regulators since credit rating agencies have a substantial influence on the safety of investors' money and the stability of stock markets.

References

- Afonso, A., Furceri, D. and Gomes, P. (2012) 'Sovereign credit ratings and financial markets linkages: application to European data', *Journal of International Money and Finance*, Vol. 31, No. 3, pp.606–638.
- Alsakka, R., Gwilym, O.A., Klusak, P. and Tran, V. (2015) 'Market impact under a new regulatory regime: credit rating agencies in Europe', *Economic Notes: Review of Banking, Finance and Monetary Economics*, Vol. 44, No. 2, pp.275–308.
- Archana, H.N., Jayanna, S. and Hiremath, V. (2015) 'Impact of bond rating changes on stock prices in India: rating agency wise analysis', *Indian Journal of Research in Capital Markets*, Vol. 2, No. 4, pp.20–32.
- Arezki, M.R., Candelon, B. and Sy, M.A.N. (2011) *Sovereign Rating News and Financial Markets Spillovers: Evidence from the European Debt Crisis*, International Monetary Fund.
- Barron, M.J., Clare, A.D. and Thomas, S.H. (1997) 'The effect of bond rating changes and new ratings on UK stock returns', *Journal of Business Finance & Accounting*, Vol. 24, No. 3, pp.497–509.
- Beckmann, K.S. and Jin, C. (2013) 'The impact of REIT ratings on stock price and shareholder wealth', *International Real Estate Review*, Vol. 16, No. 2, pp.134–146.
- Benmelech, E. and Dlugosz, J. (2010) 'The credit rating crisis', *NBER Macroeconomics Annual*, Vol. 24, No. 1, pp.161–208.
- Billet, M., Garfinkel, J. and O'Neal, E. (1998) 'The cost of market versus regulatory discipline in banking', *Journal of Financial Economics*, Vol. 48, pp.333–358.
- Brooks, R., Faff, R.W., Hillier, D. and Hillier, J. (2004) 'The national market impact of sovereign rating changes', *Journal of Banking & Finance*, Vol. 28, No. 1, pp.233–250.
- Brown, S. and Warner, J. (1985) 'Using daily stock returns: the case of event studies', *Journal of Financial Economics*, Vol. 14, pp.3–31.

- Chandrashekar, R. and Mallikarjunappa, T. (2013) 'The effect of initial bond rating on share price performance', *Management*, Vol. 2, No. 6, pp.263–267.
- Choy, E., Gray, S. and Rangunathan, V. (2006) 'Effect of credit rating changes on Australian stock returns', *Accounting & Finance*, Vol. 46, No. 5, pp.755–769.
- Creighton, A., Gower, L. and Richards, A.J. (2007) 'The impact of rating changes in Australian financial markets', *Pacific-Basin Finance Journal*, Vol. 15, No. 1, pp.1–17.
- Deb, P., Manning, M.J., Murphy, G., Penalver, A. and Toth, A. (2011) *Whither the Credit Ratings Industry?*, Bank of England Financial Stability Paper, No. 9.
- Dichev, I.D. and Piotroski, J.D. (2001) 'The long-run stock returns following bond rating changes', *The Journal of Finance*, Vol. 56, No. 1, pp.173–203.
- Ederington, L.H. and Goh, J.C. (1998) 'Bond rating agencies and stock analysts: who knows what when?', *Journal of Financial and Quantitative Analysis*, Vol. 33, No. 4, pp.569–585.
- Ferreira, M.A. and Gama, P.M. (2007) 'Does sovereign debt ratings news spill over to international stock markets?', *Journal of Banking & Finance*, Vol. 31, No. 10, pp.3162–3182.
- Glascok, J.L., Davidson III, W.N. and Henderson Jr., G.V. (1987) 'Announcement effects of Moody's bond rating changes on equity returns', *Quarterly Journal of Business and Economics*, Vol. 26, No. 1, pp.67–78.
- Goh, J.C. and Ederington, L.H. (1993) 'Is a bond rating downgrade bad news, good news, or no news for stockholders?', *The Journal of Finance*, Vol. 48, No. 5, pp.2001–2008.
- Goh, J.C. and Ederington, L.H. (1999) 'Cross-sectional variation in the stock market reaction to bond rating changes', *The Quarterly Review of Economics and Finance*, Vol. 39, No. 1, pp.101–112.
- Grier, P. and Katz, S. (1976) 'The differential effects of bond rating changes among industrial and public utility bonds by maturity', *The Journal of Business*, Vol. 49, No. 2, pp.226–239.
- Griffin, P.A. and Sanvicente, A.Z. (1982) 'Common stock returns and rating changes: a methodological comparison', *The Journal of Finance*, Vol. 37, No. 1, pp.103–119.
- Gropp, R. and Richards, A.J. (2001) 'Rating agency actions and the pricing of debt and equity of European banks: what can we infer about private sector monitoring of bank soundness?', *Economic Notes*, Vol. 30, No. 3, pp.373–398.
- Hand, J.R., Holthausen, R.W. and Leftwich, R.W. (1992) 'The effect of bond rating agency announcements on bond and stock prices', *The Journal of Finance*, Vol. 47, No. 2, pp.733–752.
- Hettenhouse, G. and Sartoris, W. (1976) 'An analysis of the informational value of bond rating changes', *Quarterly Review of Economics and Business*, Vol. 16, No. 2, pp.65–78.
- Hill, P., Brooks, R. and Faff, R. (2010) 'Variations in sovereign credit quality assessments across rating agencies', *Journal of Banking & Finance*, Vol. 34, No. 6, pp.1327–1343.
- Hite, G. and Warga, A. (1997) 'The effect of bond-rating changes on bond price performance', *Financial Analysts Journal*, Vol. 53, No. 3, pp.35–51.
- Holthausen, R.W. and Leftwich, R.W. (1986) 'The effect of bond rating changes on common stock prices', *Journal of Financial Economics*, Vol. 17, No. 1, pp.57–89.
- IMF (2010) *The uses and Abuses of Sovereign Credit Ratings*, Chapter 3 in the 2010 IMF Global Financial Stability Report.
- Impson, C.M., Karafiath, I. and Glascock, J. (1992) 'Testing beta stationarity across bond rating changes', *The Financial Review*, Vol. 27, pp.607–618.
- Ingram, R.W., Brooks, L.D. and Copeland, R.M. (1983) 'The information content of municipal bond rating changes: a note', *The Journal of Finance*, Vol. 38, No. 3, pp.997–1003.
- Jorion, P., Liu, Z. and Shi, C. (2005) 'Informational effects of regulation FD: evidence from rating agencies', *Journal of Financial Economics*, Vol. 76, No. 2, pp.309–330.
- Kaminsky, G. and Schmukler, S.L. (2002) 'Emerging market instability: do sovereign ratings affect country risk and stock returns?', *The World Bank Economic Review*, Vol. 16, No. 2, pp.171–195.

- Katz, S. (1974) 'The price and adjustment process of bonds to rating reclassifications: a test of bond market efficiency', *The Journal of Finance*, Vol. 29, No. 2, pp.551–559.
- Kaur, M. and Vij, M. (2018) 'Corporate governance index and firm performance: empirical evidence from Indian banking', *Afro-Asian Journal of Finance and Accounting*, Vol. 8, No. 2, pp.190–207.
- Kliger, D. and Sarig, O. (2000) 'The information value of bond ratings', *The Journal of Finance*, Vol. 55, No. 6, pp.2879–2902.
- Lal, J. and Mitra, M. (2011) 'Effect of bond rating on share prices: a study of select Indian companies', *Vision*, Vol. 15, No. 3, pp.231–238.
- Martell, R. (2005) *The Effect of Sovereign Credit Rating Changes on Emerging Stock Markets*, Available at SSRN 686375.
- Matolesy, Z.P. and Lianto, T. (1995) 'The incremental information content of bond rating revisions: the Australian evidence', *Journal of Banking & Finance*, Vol. 19, No. 5, pp.891–902.
- Penha, A.A.G. (2015) *The Effect of Credit Rating Agencies in Stock Prices Event Study in Germany and Portugal*, Doctoral dissertation.
- Pinches, G.E. and Singleton, J.C. (1978) 'The adjustment of stock prices to bond rating changes', *The Journal of Finance*, Vol. 33, No. 1, pp.29–44.
- Richards, M.A.J. and Deddouche, M.D. (1999) *Bank Rating Changes and Bank Stock Returns – Puzzling Evidence from the Emerging Markets*, International Monetary Fund.
- Schweitzer, R., Szewczyk, S.H. and Varma, R. (1992) 'Bond rating agencies and their role in bank market discipline', *Journal of Financial Services Research*, Vol. 6, No. 3, pp.249–263.
- Shevlin, T.J. (1981) 'Measuring abnormal performance on the Australian securities market', *Australian Journal of Management*, Vol. 6, No. 1, pp.67–108.
- Steiner, M. and Heinke, V.G. (2001) 'Event study concerning international bond price effects of credit rating actions', *International Journal of Finance & Economics*, Vol. 6, No. 2, pp.139–157.
- Vassalou, M. and Xing, Y. (2003) 'Equity returns following changes in default risk: new insights into the informational content of credit ratings', in *EFA 2003 Annual Conference Paper*, January, No. 326.
- Wakeman, L.M. (1978) *Bond Rating Agencies and the Capital Markets*, Working Paper, University of Rochester, New York.
- Wansley, J.W. and Claurette, T.M. (1985) 'The impact of creditwatch placement on equity returns and bond prices', *Journal of Financial Research*, Vol. 8, No. 1, pp.31–42.
- Wansley, J.W., Glascock, J.L. and Claurette, T.M. (1992) 'Institutional bond pricing and information arrival: the case of bond rating changes', *Journal of Business Finance & Accounting*, Vol. 19, No. 5, pp.733–750.
- Wei, K.C., Razak, N.H.A. and Kamarudin, F. (2019) 'Bank specific and economic factors on bank's non-interest-based activities in Asia Pacific region', *Afro-Asian Journal of Finance and Accounting*, Vol. 9, No. 4, pp.420–438.
- Weinstein, M. (1977) 'The effect of a rating change announcement on bond price', *Journal of Financial Economics*, Vol. 5, No. 3, pp.329–350.
- Zaima, J.K. and McCarthy, J. (1988) 'The impact of bond rating changes on common stocks and bonds: tests of the wealth redistribution hypothesis', *Financial Review*, Vol. 23, No. 4, pp.483–498.