University Of Birmingham

Department of Economics

MSc G34 International Banking & Finance 2004/2005

The Usefulness, Role and Consistency of Credit Rating Agencies

11th January 2005

Abstract:

The aim of this essay is to examine the usefulness, the consistency of the ratings provide and role that credit agencies play in rating debt issued by governments in the form of bonds. The country on which this study is being conducted is the United Kingdom where a conclusion will be drawn on whether the information provided by Credit Agencies over a period of time provides useful and satisfies the purpose of Credit Agencies.

Table of Figures:

Figure 1 Cumulative Average Default Rates.. 4
Figure 2 Moody's Rating Spectrum 5
Figure 3 Triple A Bond Yield Curve 6
Figure 4 All Ratings Bond Yield Curve... 7
Figure 5 Corporate Bond & UK Government Bond Spread.. 8

Introduction:

The aim of this essay is to combine various aspects regarding the role, usefulness and consistencies with which Credit Agencies[1] provide rating for UK Government Debt[2] in the form of Bonds. Based on theoretical information and empirical evidence the aim is to draw a concise conclusion as to whether Credit Agencies fulfil the duties as Rating Agency for the UK. The principle credit agency used through out this essay will be Moody's and Standard and Poor however at appropriate times Fitch will be touched on and we now begin by introducing the Market Role and Usefulness of Credit Rating Firms.

Market Role and Usefulness of Credit Rating Firms:

Individual investing into various Bond (Financial Assets) whether they are Government or Corporate require unbiased and reliable sources of information to provide some signal or indication of the security of the income and capital payment for a particular Bond. Therefore with the need of individuals requiring unambiguous information Credit Rating Agencies take on the distinctive position in Financial Markets to provide such information. Furthermore Moody's and other participating Agencies are exempt from disclosure rules that are applicable to certain types analyst such as Equity Analyst and have access to market sensitive information so that they are able to present investors with healthier information than the markets itself.

In addition to providing unambiguous information to investors another role of Moody's is to engage in resolving Financial Market inefficiency caused by Asymmetric information. The way in which Moody's resolve informational asymmetries is through providing neutral and reliable information to individual market investor by taking into consideration the credit quality issued by various debtors within Financial Markets. Therefore Moody's and other Rating Agencies acting as independent third or fourth party adjudicators help decrease the problem of informational asymmetries.

In periods of high volatility which could be due to economics factors globally, investors become more concerned with the returns they expect from their Bonds and may be concerned with the loses faced if market volatility continues, however if assets are backed with credit ratings provided by Moody's and others in such periods investors would be more composed to the heavy fluctuating markets.

[1] Credit Agencies: - There are numerous Credit Agencies situated around the world however the main three Agencies often referred to by many financial organisation, Governments, Corporation and others are Moody's, Standard & Poor and Fitch.

[2] The type of Government Debt considered throughout this analysis is debt classified as "Investment Grade".

Therefore it can be seen that the role and usefulness of a Credit Agency such as Moody's help mystified investors with indications or signal regarding Bonds, however it is possible for issuers of Bonds to gain more than one rating for their Securities.

It is plausible to argue that often issuers of Bonds may seek ratings from alternative sources such as Standard & Poor or Fitch if there is the possibility for inconsistency in ratings provided by the top three agencies or if there is additional utility that can be extracted from gaining higher credit qualification. However this feasible only with a higher associated cost to the issuer of the Bonds because this will be explained as we now turn to the meanings of Ratings and the way in which the Top Three follow consistent Rating Methods with slight adjustments.

Meaning of Credit Ratings:

Moody's along with other rating agencies make use of various techniques and combinations of quantitative tools and qualitative analysis which helps them as a credit rating agency determine the capability and willingness to pay interest and repay the initial amount as scheduled. The use of these diverse methods authenticates the creditworthiness of an obligor along with other factors such as the associated probabilities that issuers may default, the expected recovery once a default has occurred and the term structure of default and recovery rate which is shown in the table below.

[3]

Table 1: Cumulative average default rates to 31 December 2002 (%)

		Years after cohort formation									
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1 January Rating	**AAA**	0.00	0.00	0.03	0.06	0.10	0.17	0.25	0.38	0.43	0.48
	AA	0.01	0.03	0.08	0.16	0.27	0.39	0.53	0.65	0.75	0.85
	A	0.05	0.15	0.28	0.44	0.62	0.81	1.03	1.25	1.52	1.82
	BBB	0.37	0.94	1.52	2.34	3.20	4.02	4.74	5.40	5.99	6.68
	BB	1.38	4.07	7.16	9.96	12.34	14.65	16.46	18.02	19.60	20.82
	B	6.20	13.27	19.07	23.45	26.59	29.08	31.41	33.27	34.58	35.87
	CCC	27.87	36.02	41.79	46.26	50.46	52.17	53.60	54.36	56.16	57.21
	Investment grade	0.13	0.34	0.57	0.87	1.20	1.52	1.83	2.13	2.41	2.72
	Speculative grade	5.17	10.27	14.81	18.46	21.31	23.67	25.71	27.36	28.83	30.07
	All ratings	1.67	3.36	4.86	6.12	7.14	8.02	8.80	9.47	10.07	10.64

Source: Standard & Poor's Risk Solutions CreditPro® 6.2.

Figure 1 Cumulative Average Default Rates

[3] Cumulative Average Default Rating for British Government Bonds from 31st December 1992 - 31st December 2002 obtained from *Bond Asset Management An Overview* Report of FIB Working Party 1 Asset Management – Bonds

From the table it is possible to see that there are a number of various credit rating categories by combining different letters which help investors understand the Bonds marketplace with respect to other Bonds available and creditworthiness of that particular security issued by the Bank of England.

The sequence of creditworthiness for Moody's rating is indicated by the rating letter which range from Aaa all the way through to C which also comprise of a subset of rating within their respective range. Each range of letters represents a group in which the credit characteristics are generally the same. Moody's operate with nine letters that are shown below, and with each of the letters there is designated the level of credit risk:

Aaa Aa A Baa Ba B Caa Ca C [4]

Figure 2 Moody's Rating Spectrum

The range in which Bonds are considered to carry the minimal risk and likelihood of default are classed as "Investment Grade" and by combing various ratings agency credit characteristics together these bonds have a rating from Baa or higher in accordance with Moody's or BBB or higher by Standard & Poor's and Fitch. The highest quality credit rating is triple A and it can be observed that the Bonds issued between 31st December 1992 and 31st December 2002 by the Bank of England where of Creditworthiness triple A.

Using the data table still it can be stated that those companies whom have a rating below Baa in accordance with Moody's and BBB or less with Standard and Poor and Fitch are considered as "Speculative Grade." Quite often the these bonds are referred to as high yield bond and as the rating tend towards the lower scale of the rating band the risk that each bond carries increase therefore implying a high default rate.

Return & Yield Consistency:

Having studied the theoretical information and aspects of the role, usefulness and method under which Government Bonds are valued it is imperative to turn to the empirical evidence as see if the amalgamation of information relating to UK Government Bonds is supported by Moody's and Standard and Poor.

It is already quite clear from figure 1 that over a period of ten years from 31st December 1992 through to 31st December 2002 the rating provided by Standards and Poor for UK Government debt was of Triple A rating and this exhibited the low risk associated with UK Government Bonds. It can also be seen that as one move down the various rating grades that there is a higher probability of default linked with bonds issues at the lower spectrum.

[4] Moody's Credit Ratings Symbols provided from Moody's Rating Symbols and Definitions August 2003.

Having studied the ratings and the associated probabilities of default and risk comprised with a Triple A UK Government Bond the diagram below show the relationship between yields to maturity and time to maturity for bonds of a Triple A credit quality. The plotted line begins with the spot interest rate, which is the rate for the shortest maturity, and extends over time to 30 years. It can be seem that as is was assumed and understood from the theory that the less risky the Bond the higher the credit rating and lower the returns.

As a result of this it can be envisaged that as the term to maturity rise the returns rise however the maximum return which can be obtained from a Triple A government bond seem to hinge around the 4.5% redemption over a 30 year period.

[5]

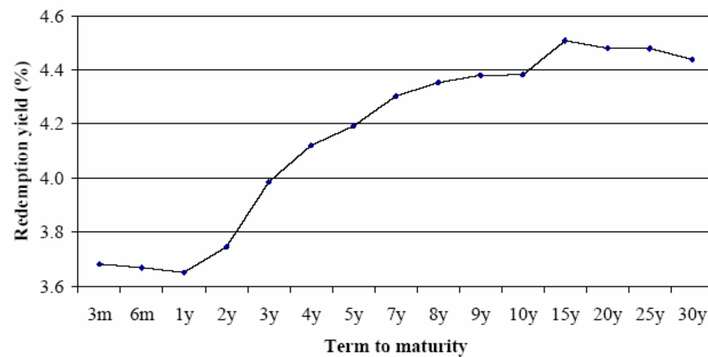


Figure 3 Triple A Bond Yield Curve

Compare figure 3 with figure 4 and discount the Triple A Bond Yield Curve it becomes very evidential that as the credit rating assigned to various bond over a certain maturity period the yields curve associated to each Bond have a tendency to increase.

It can be seen that a Triple A Corporate bond generates a higher return than a standard government bond issues by the Bank of England but it can also be seen by the characteristics of the diagram that Baa ratings or higher in accordance with Moody's or BBB or higher by Standard & Poor's and Fitch represent "Investment Grade" from figure 2 it is possible to see that over the time of maturity of say 10 years the associated probability of default and the investment becoming more riskier and increase from 0.37 to 6.68 for a Triple B credit rated Bond.

[5] Triple A Government Bond Yield curve taken from Bloomberg

Furthermore the spot rate applicable to a Triple B bond at the point of issue is also higher than a government bond issued with a rating of Triple A therefore this indicated that the government bonds credit ratings is consistent over time.

[6]

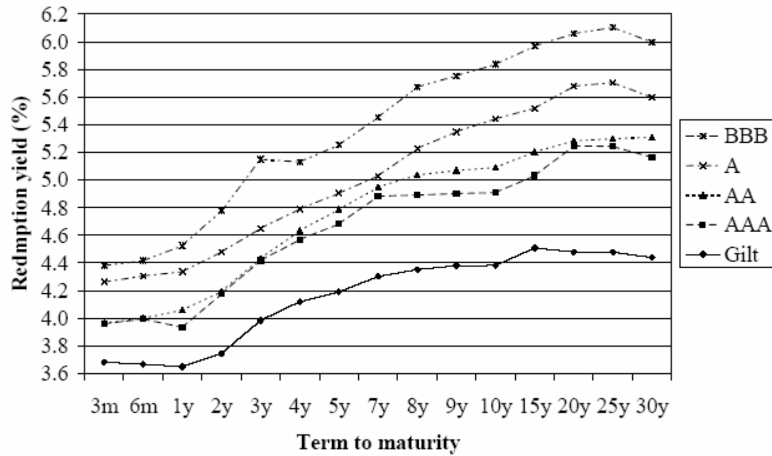
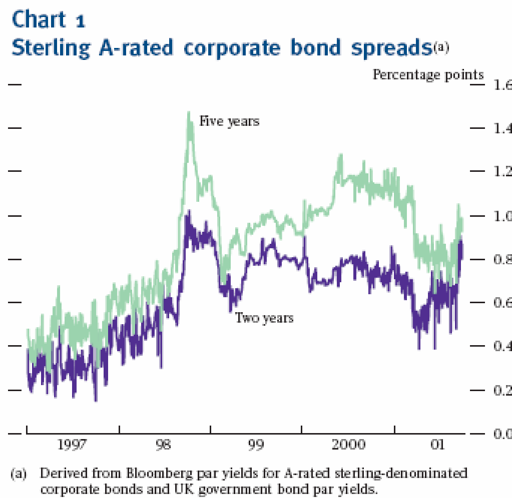


Figure 4 All Ratings Bond Yield Curve

The diagram below show the relationship and consistency of Standard & Poor as a credit rating agency to fulfil its role and usefulness as a credit ratings provide because it is possible to see that when comparing to assets of similar rating over a five year period where one asset is a Government Bond and the other a Corporate Bond in pound sterling the spread between then over the period follows the same trend.

[7]



[6] AAA – BBB Government Bond and Corporate Bond Yield Curve taken from Bloomberg

[7] Spread of Government Bond and Corporate Bonds taken from Bloomberg over a 5 year period.

Figure 5 Corporate Bond & UK Government Bond Spread

It can be seen that bonds have the same rating since the peaks and falls in both bond over the five year period follow a similar suit. Furthermore since both bonds have a very similar spread the rate of default will also be similar therefore a Corporate Bond with a Sterling A rating is equivalent to a government Bond of Sterling A rating.

Final from the various diagrams and charts it is possible co conclude that Standard and Poor, Moody's and Fitch are useful in their role of Credit Rating Agencies and also that the rating provided by with company is just a creditworthy as the others but the only difference is that the ratings are presented differently.

All Long Term Foreign Currency Bonds and Domestic Bonds issues by the Government carry a Triple Aaa credit rating and are Stable, as issued by Moody's in there report for April 2003 and the Country Ceiling for Foreign Currency Bonds & Note Long and Shorter along with Bank deposit Long an Short Term carry a Triple Aaa credit rating with a stable outlook on the future.

Conclusion:

It can be stated that having understood the roles and responsibility of Credit Rating Agencies and their purpose as a Rating Agency to provide unbiased and coherent information it can be confirmed that from the periods of 31st December 1982 through to 31st December 2002 they have provided consistent ratings for the Bank of England's Bonds issued in this period.

It can also be justified that the theoretical conclusions made which refer to the Bond yield curves and ratings attached to each Bond does indeed uphold the fact that as the rating tend to move towards the lower range of the credit ratings spectrum the possible returns do increase but at the same time so does the risk of default.

Therefore it can be clearly agreed upon that Credit Ratings are Consistent they do fulfil their role and certainly do provide information to investor that are mystified when studying a developed economy such as England however there are a multitude of question and areas study within this area of study and this essay does not cover facts or question like can credit ratings agency predict financial crises?.

References:

Moody's Investors Services:

Moody's Rating Symbols and definitions (August 2003)
Jerome S. Fons Chair, Symbols & Definitions Committee

Historical Default Rates of Corporate Bond Issuers 1920 – 1996 (January 1997)
Lea V Carty & Dana Lieberman

Default & Recovery Rates of European Corporate Bond Issuers 1985 – 2001 (July 2002)
David Hamilton

Ratings List Government Bonds & Country Ceilings (April 2003)

Macroeconomics and Sovereign Risk Ratings Washington, January 2004
Otaviano Canuto Executive Director, World Bank ocanuto@worldbank.org
Pablo Fonseca P. dos Santos Coordinator of Economic and Financial Affairs, Secretariat of International Affairs, Brazilian Ministry of Finance Paulo C.de Sá Porto

www.bloomberg.com
For screen shots and data.

Bond Assets Management an Overview
Report of FIB Working Party 1
Paul Sweeting, Derek Bagnall, Hugh Cutler, David Dyer, Guy Freeman, Malcolm Jones, Roshan Lachman, Iain Williamson.