

An Examination of Ratings of Covered Bonds

Master Thesis in Banking and Finance

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Executive Summary

Problem

Covered Bonds are an important source of refunding for banks in Europe and have recently become popular in countries like Australia, New Zealand and US. Covered bonds currently represent the second largest asset class just after sovereign bonds in almost every European country. The total amount of outstanding covered bonds is currently approximately 2.4 trillion euro. The current discussion about the asset encumbrance has increased voices for an issuance limit for banks in the European countries.

This paper discusses how the common rating agencies produce their ratings and examines their approaches of rating covered bonds. As the rating agencies publish a lot of information about their methodology but do not disclose how the rating is generated, one goal of this paper is to show how the unadulterated pool data¹, the legal frameworks, the issuer rating, the rating of the country the issuer is based in and the general structure have an influence on the covered bond rating. Furthermore, it examines how the rating agencies analyse this data to be able to produce a rating.

The three big rating agencies are paid by the organisations whose debt they rate. Due to this conflict of interest the independence of these ratings is questionable. Today, there are still high barriers to market entry and the market structure can best be described as an oligopoly. I expect that this fact is mirrored in the rating distribution and in the scores derived by the rating agencies to describe the cover pool. Therefore, it might be possible to generate a rating approach that is able to produce ratings which are leading.

Several parameters such as the LTRO introduced by the ECB in 2011 and the issuance limits of covered bonds have an influence on the covered bonds and their ratings. In this paper I try to show some of these effects.

As mortgage covered bonds have become much more important than public covered bonds over the last years, the latter are not treated in this thesis.

Method

This thesis is split into three parts. In the first part the cover pool data provided by the three rating agencies Moody's, Fitch and Standard & Poor's are collected and analysed. This part only examines the covered bond rating, the issuer rating and the unadulterated pool data such as the asset and liability mismatch, loan to value ratios, non-performing loans and the overcollateralization. Furthermore, the interdependencies between these variables are examined. Additionally, the paper gives an overview over the common legal frameworks and detects effects on the cover pool data. Moreover, the general structure of the covered bonds are evaluated and tested on influences on the pool data.

In the next part the approaches used by the three main rating agencies are analysed and compared. This is done by summarising the methodology approaches published by the agencies but also by examining the variables generated in these processes. As the transparency of the methodology is questionable this part is to some extent based on assumptions and interpretations. Additionally, the unadulterated pool variables are set in relation to the evaluated pool variables² and grouped by factors such as the country the issuer is based in, the issuer rating, the covered bond rating and factors of the legal frameworks. In the first and second part of this thesis quarterly data of 213 different cover bond pools are treated.

In the last part, by regressing and using only the data provided by Moody's, we examine if the results found in the descriptive statistics section are true. Furthermore, it is tested if the variables generated by Moody's are able to describe the covered bond rating. In a next step it tests if the unadulterated cover pool data are able to describe the variables generated by Moody's. Based on this and by including other own generated factors a new

¹ The variables not influenced or calculated by the rating agencies such as the Loan to Value, the Asset and liability Mismatch, the Non-performing Loans and the Overcollateralization.

² The variables generated by the rating agencies to describe the risks of the cover pools.

rating model is developed. The goal of this procedure is to generate an approach that does not depend too much on the country rating the issuer is based in such as that used by the rating agencies.

As in this part only data provided by Moody's is examined, the treated universe shrinks to 145 covered bond pools.

Results

First of all there are some differences observable in the ratings and unadulterated pool data provided by the three rating agencies. For example the overcollateralization provided by S&P is not equal to that provided by Moody's.

Furthermore, there are large differences between countries. For example in the Netherlands, there are historically higher loan to values observable in the mortgage lending market, which is reflected in the cover pool data. In Spain where the assets of the covered bonds are not separated from the balance sheet the non-performing loans are the highest among all cover pools. In Germany where the commercial asset share is higher than in other countries, the average loan to value tends to be lower. Furthermore, the German legal framework is one of the strongest across all countries.

Moreover countries where the asset and liability mismatch is allowed to be hedged over derivatives tend to have much higher mismatches than countries that require hedging the mismatch over a natural maturity matching.

It is not only the legal framework that has a big influence on the cover pool data. Additional factors are how the covered bonds are structured, the country the issuer is based in and the issuer rating. Larger covered bonds tend to have a higher issuer rating but the collateral tends to be of worse asset quality compared to smaller covered bond pools. Furthermore, the different forms of covered bond concepts and the legal frameworks are summarised in detail. The cover pool data is analysed by deriving several statistical parameters and by interpreting the evolution of these parameters. Especially the weighted average and the skewness are able to describe a lot. For example the skewness of the covered bond rating has increased over the considered time period. This reflects the on-going downgrade process of covered bonds.

Some of the legal frameworks use a special purpose vehicle to separate the cover pool from the issuer, whereas others hold the assets on the balance sheet.

In Germany the amount of covered bonds issued with a short maturity has decreased after the introduction of the LTRO by the ECB in the late 2011.

In the second part, at a first sight the rating agency approaches look quite similar as they are all based on the issuer rating, a score that describes the cover pool asset quality and another factor that defines the probability of timely payments by including an analysis of the legal framework and the asset and liability mismatch. But the devil is in the details as each rating agency has its own focus on a special part of the cover pool characteristics. Whereas S&P is focused on the asset and liability mismatch and the counterparty risk, Moody's mainly cares about the ability of the cover pool to generate timely payments and Fitch on the recovery after an issuer default and the independence of the collateral pool from the issuer. This paper tries to show the main differences between the three rating agencies approaches.

The scores generated by Moody's which describe the cover pool risk are on average higher for larger cover pools than for smaller. This implies that larger cover pools have, in Moody's opinion, on average a worse asset quality. On the other hand larger cover pools tend to have a higher covered bond rating.

The distribution of the covered bond ratings grouped by the rating agencies shows that Moody's rating are on average lower than those of Fitch and those of Fitch lower than those of S&P.

The regression of the evaluated pool variables generated by Moody's delivers highly significant results with the signs expected in the descriptive statistics section. Due to the interdependencies across the unadulterated pool variables and the legal framework, the issuer rating and the rating of the country the issuer is based in, the regression of the unadulterated pool variables on the covered bond rating is not able to produce stable and highly significant results.

The country the issuer is based in is able to explain a large part of the variation in covered bond ratings. This is due the fact that each country has its own legal framework and the supportability of a country compared to the issuing bank. The result is a high correlation of the country rating and the covered bond rating. But this result is kind of misleading as the country rating is highly correlated with the issuer rating, the timely payment indicator, the market and refinancing risk, the non-performing loans and other factors.

As there is only small within variation in the variables the OLS and fixed-effects regressions are repeated by using between-effects regressions. Furthermore, a new developed approach proposed by Baetschmann, Staub and Winkelmann (2011) delivering a consistent estimator for the ordered logistic model with fixed-effects is used. This approach is able to produce significant results with signs we expected from the descriptive statistics section.

In summary the covered bond rating is mainly driven by the issuer rating, the rating of the country the issuer is based in and to some extent the legal framework. Further variables are useful to be able to differentiate across covered bonds inside one jurisdiction.

Finally other variables and own created variables are include to be able to describe the covered bond rating without the inclusion of any altered cover pool variable. This approach delivers a high R^2 and significant results. In fact this approach allows decreasing the dependence of the covered bond rating on the issuer rating and especially the country rating.

Evaluation

As there are large interdependencies and multicollinearity across both the unadulterated and the evaluated pool variables it is difficult to catch the effect of a single variable on the covered bond rating. Furthermore, the within variations of the variables are much lower than the between variations. As the covered bond rating is driven over a lot of different factors it is essential to bear in mind that there could be some other factors that are not treated in this thesis.

Furthermore, the dependency of the financial sector on political decision has definitely increased over the last years. It is difficult to compare covered bond pools inside one country but even more difficult across countries. But there are efforts in the market to increase the transparency on the cover pool data with the main goal to enhance the comparability.

Nevertheless the examination of the legal framework and the mortgage market of a country still remain essential. At a first sight it seems that the covered bond rating is mainly driven by the country and issuer rating. Therefore one might think to generate a one-step approach³ to rate covered bonds is the best solution. But in fact the variables that describe the cover pool and other variables such as the legal framework and the mortgage market are correlated with the country and issuer rating. Therefore if one uses a one-step approach to rate covered bonds a lot of information gets lost. It follows that one has to generate a multi-step approach that allows avoiding this correlation.

³ Over the issuer and country rating